No. 16-969	
Title:	**SAS Institute Inc., Petitioner** **v.** **Joseph Matal, Interim Director, United States Patent and Trademark Office, et al.**
Docketed:	February 3, 2017
Lower Ct:	United States Court of Appeals for the Federal Circuit
Case Numbers:	(2015-1346, 2015-1347)
Decision Date:	June 10, 2016
Rehearing Denied:	November 7, 2016
Questions Presented	

DATE	PROCEEDINGS AND ORDERS
Jan 31 2017	Petition for a writ of certiorari filed. (Response due March 6, 2017)
Feb 28 2017	Order extending time to file response to petition to and including April 5, 2017.
Apr 05 2017	Brief of Federal Respondents in opposition filed.
Apr 17 2017	Reply of petitioner SAS Institute Inc. filed.
Apr 19 2017	DISTRIBUTED for Conference of May 11, 2017.
May 15 2017	DISTRIBUTED for Conference of May 18, 2017.
May 22 2017	Petition GRANTED.
Jun 22 2017	The time to file the joint appendix and petitioner's brief on the merits is extended to and including July 20, 2017.
Jun 22 2017	The time to file respondents' brief on the merits is extended to and including September 5, 2017.
Jul 20 2017	Joint appendix filed. (2 Volumes) (Statement of costs filed)

Jul 20 2017	Brief of petitioner SAS Institute Inc. filed.
Jul 20 2017	Brief amicus curiae of Intellectual Property Owners Association filed.
Sep 05 2017	Brief of Federal Respondent filed.
Sep 05 2017	Brief of respondent ComplementSoft, LLC filed.
Sep 12 2017	Motion for divided argument filed by respondent ComplementSoft, LLC.
Sep 12 2017	Brief amicus curiae of Houston Intellectual Property Law Association filed.
Oct 05 2017	Reply of petitioner SAS Institute Inc. filed.
Oct 06 2017	SET FOR ARGUMENT ON Monday, November 27, 2017
Oct 10 2017	Motion for divided argument filed by respondent DENIED.
Oct 12 2017	CIRCULATED
Oct 18 2017	Record requested from the U.S.C.A. Federal Circuit.
Oct 18 2017	Record received from the U.S.C.A. Federal Circuit is electronic and located on PACER.
Nov 27 2017	Argued. For petitioner: Gregory A. Castanias, Washington, D. C. For respondents: Jonathan C. Bond, Assistant to the Solicitor General, Department of Justice, Washington, D. C.

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RECORD AND BRIEFS

16-969

No. ____

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IN THE

Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

MICHELLE K. LEE, Director, U.S. Patent and Trademark Office, and COMPLEMENTSOFT, LLC,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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QUESTION PRESENTED

Does 35 U.S.C. § 318(a), which provides that the Patent Trial and Appeal Board in an inter partes review "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," require that Board to issue a final written decision as to every claim challenged by the petitioner, or does it allow that Board to issue a final written decision with respect to the patentability of only some of the patent claims challenged by the petitioner, as the Federal Circuit held?

PARTIES TO THE PROCEEDING AND RULE 29.6 STATEMENT

Petitioner, who was Appellant below, is SAS Institute Inc. Petitioner has no parent company, and no publicly traded corporation owns 10% or more of any of its stock.

Respondents are ComplementSoft, LLC, Appellee and Cross-Appellant below, and Michelle K. Lee, in her capacity as Director of the U.S. Patent and Trademark Office, who was an Intervenor below.

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JURISDICTION

The Federal Circuit denied rehearing en banc on November 7, 2016. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Each of the statutory provisions at issue was enacted by the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011), and is now codified in Title 35 of the United States Code. The text of each relevant provision is set forth in the Appendix (App. 135a-48a).

STATEMENT

1. "The Leahy-Smith America Invents Act, 35 U.S.C. § 100 *et seq.*, creates a process called 'inter partes review.' That review process allows a third party to ask the U.S. Patent and Trademark Office to reexamine the claims in an already-issued patent and to cancel any claim that the agency finds to be unpatentable in light of prior art." *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2136 (2016). "The Act converts inter partes reexamination from an

examinational to an adjudicative proceeding, and renames the proceeding 'inter partes review.'" H. R. Rep. No. 112-98, at 46-47 (2011), *reprinted in* 2011 U.S.C.C.A.N. 67, 77 (H.R. Rep.); *Cuozzo*, 136 S. Ct. at 2137.

One critical consequence of this change to an adjudicative proceeding has to do with the effect of an adjudicated inter partes review upon district court infringement litigation: An important congressional objective of the Act was to ensure that "a final decision in a post-grant review process will prevent the petitioner, a real party in interest, or its privy from challenging any patent claim on a ground that was raised in the post-grant review process." H.R. Rep. at 48, 2011 U.S.C.C.A.N. at 78.

The detailed provisions of the Act bear this out. A petitioner begins the inter partes review process by filing a petition challenging the patentability of one or more claims in a given patent. 35 U.S.C. § 311(a), (b). *Inter alia*, the petition must "identif[y], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." *Id.* § 312(a)(3). The owner of the challenged patent may file a "preliminary response" to the petition, setting forth "reasons why no inter partes review should be instituted." *Id.* § 313.

Section 314 sets forth the threshold for instituting inter partes review: The Director may institute inter partes review if "the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313

shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." *Id.* § 314(a). There is no requirement in the AIA that the Director's institution decision be reasoned; indeed, judicial review of an institution decision is generally unavailable. *Id.* § 314(d); *Cuozzo*, 136 S. Ct. at 2140-42; *id.* at 2150-53 (Alito, J., concurring in part and dissenting in part). The Patent Trial and Appeal Board conducts "each inter partes review instituted under this chapter." 35 U.S.C. § 316(c).

Section 318(a), the provision most central to this case, sets forth the requirements of a "final written decision": "If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)" (which allows, with certain limitations, a patent owner's amendment of the patent during inter partes review with "a reasonable number of substitute claims," *id.* § 316(d)(1)(B)). "A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision" to the Federal Circuit, pursuant to 35 U.S.C. §§ 141-144. *Id.* § 319.

In section 315, the statute also establishes the relationship between—and consequences for—multiple proceedings, including parallel inter partes review actions and civil actions. If the petitioner has previously "filed a civil action challenging the validity of a claim of the patent," the Director is forbidden from instituting an inter partes review. *Id.*

§ 315(a)(1). And if the petitioner files a civil action after filing a petition for inter partes review, "that civil action shall be automatically stayed" until certain events occur. *Id.* § 315(a)(2). Likewise, inter partes review is forbidden if the petitioner has been served with a complaint alleging infringement of the patent "more than 1 year" prior to the filing of the petition. *Id.* § 315(b).

Finally, a petitioner is estopped from relitigating, in an infringement action, grounds of patent invalidity that were or could have been raised in the inter partes review. Once a "final written decision under section 318(a)" has been issued, the petitioner "may not assert either in a civil action arising in whole or in part under [the patent laws] or in a proceeding before the International Trade Commission . . . that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review." *Id.* § 315(e)(2).[1]

2. On September 14, 2012, ComplementSoft sued SAS for patent infringement in the Northern District of Illinois. *See* Complaint, *ComplementSoft, LLC v. SAS Institute Inc.*, No. 1:12-cv-07372 (N.D. Ill. Sept.

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[1] The America Invents Act also created parallel regimes for "Post-Grant Review" and review of "Covered Business Method Patents." Those statutory schemes contain the identical operative language as Sections 314(a) and 318(a) of Title 35. *See* 35 U.S.C. §§ 324(a) (entitled "THRESHOLD" for "Institution of post-grant review") & 328(a) (entitled "FINAL WRITTEN DECISION"); AIA, 125 Stat. 284, 329 § 18(a)(1) (providing that post-grant review for covered business method patents "shall be regarded as, and shall employ the standards and procedures of, a post-grant review under chapter 32 of title 35, United States Code . . .").

14, 2012) (Dkt. 1). ComplementSoft's complaint alleged that SAS had infringed "one or more claims of the '936 Patent [ComplementSoft's U.S. Patent No. 7,110,936], including but not limited to at least claims 1, 2, 3, 4, 8 and 10." *Id.* at ¶¶ 14-16; App. 42a, 104a. The '936 Patent contains 16 claims, numbered 1 through 16. Patent App. 1-16.

On March 29, 2013, within the one-year window set forth in 35 U.S.C. § 315(b), SAS petitioned for inter partes review of the '936 Patent, challenging the patentability of all 16 of the patent's claims, either as anticipated (35 U.S.C. § 102), or obvious (*id.* § 103) in view of prior art. App. 104a-05a. On August 12, 2013, the Patent Trial and Appeal Board, acting as the Director's delegate for making institution decisions pursuant to 37 C.F.R. § 42.4(a), and believing that it had the authority to institute inter partes review as to fewer than all 16 of the claims challenged in SAS's petition, instituted inter partes review only as to claims 1 and 3-10. App. 106a, 127a.

After receiving evidence and argument, the Patent Trial and Appeal Board on August 6, 2014 issued its "final written decision" under 35 U.S.C. § 318(a). App. 41a. Despite the statutory mandate that the Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," the Board's final written decision addressed only claims 1 and 3-10, and not claims 2 and 11-16 of the '936 Patent. App. 84a. The Board largely ruled consistently with the reasoning of its August 2013 institution decision, although it reversed course as to claim 4 of the '936 Patent, adopting a new construction of that claim

never before raised by the parties or suggested by the Board. App. 70a.

SAS requested rehearing before the Board, challenging the substance of its patentability ruling with respect to claim 4 of the '936 Patent, and its procedural failure under § 318(a) to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." The Board denied rehearing on November 10, 2014, App. 129a.

3. SAS and ComplementSoft each timely appealed to the Court of Appeals for the Federal Circuit.

a. SAS again challenged the Board's determination of patentability with respect to claim 4 as well as the Board's refusal to issue a final written decision with respect to the patentability of all 16 patent claims it had challenged. App. 2a. ComplementSoft appealed the determination of unpatentability with respect to claims 1, 3, and 5-10 of the '936 Patent. App. 7a. The Director of the Patent and Trademark Office intervened to defend the Board's decision to issue a final decision as to only some of the claims challenged by SAS. *See* App. 1a.

b. After briefing had been completed in this case, but before oral argument, the Federal Circuit, on February 10, 2016, issued a 2-1 panel decision in *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016). In *Synopsys*, the divided panel held that the text of § 318(a)—requiring a final written decision with respect to "any patent claim challenged by the petitioner"—was

materially different from the language of § 314(a), which allows institution of an inter partes review where there is a reasonable likelihood that the petitioner would prevail with respect to "at least 1 of the claims challenged in the petition." *Id.* at 1315. Accordingly, the panel majority concluded, "the claims that the Board must address in the final decision are different than the claims raised in the petition." *Id.* The *Synopsys* majority added that, "[a]lthough we find that the language is clear, if there were any doubt," the Board was authorized to adopt this partial-final-written-decision regime under its rulemaking authority, *id.* at 1316; *see* 35 U.S.C. § 316(a)(2); *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

c. Judge Newman filed a lengthy dissent in *Synopsys*, setting forth several "principal concerns" with the majority's approach, most of which were caused by the erroneous construction of Section 318(a):

- By giving the Patent Trial and Appeal Board the authority to "'pick and choose' which of the challenged patent claims and issues it will decide in these new proceedings" under the AIA, the majority approved leaving some challenged claims unadjudicated; Judge Newman pointed out that this "absence of finality negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues." 814 F.3d at 1325.
- Judge Newman also pointed out that because decisions whether to institute inter

partes review are not appealable, *see* 35 U.S.C. § 314(d), the majority's ruling improperly immunizes, from appellate review, patentability rulings made on a preliminary basis at the pre-institution stage of an inter partes proceeding. 814 F.3d at 1325-26.

- Judge Newman further emphasized that the majority ruling had—contrary to the statutory text—turned the institution phase of the inter partes process into "a short-cut to final judgment." *Id.* at 1326.

Synopsys did not seek rehearing *en banc* from the Federal Circuit, nor did it seek certiorari from this Court.

d. On June 10, 2016, the panel in this case issued its decision, affirming the Board's decision except with respect to claim 4 of the '936 Patent, as to which the panel vacated the Board's determination. App. 1a.

With regard to the question of whether the "final written decision" had to address the patentability of all 16 claims challenged by SAS under Section 318(a), the panel divided 2-1. The panel majority viewed "SAS's argument that the Board must address all claims from the IPR petition in the final written decision [as] foreclosed by *Synopsys*." App. 22a.

Judge Newman again dissented. App. 23a. Reiterating many of the objections first outlined in her *Synopsys* dissent, Judge Newman summarized her objections to the majority's ruling:

> . . . . The PTO's position that it need not review some of the claims challenged in a petition for

> review via a post-grant proceeding is inconsistent with the Act. The PTO is authorized to refuse to institute review entirely—but a partial review cannot be inferred from the statute or accommodated to its purpose.
>
> The statutory provisions and the legislative purpose of substituting an agency tribunal for district court proceedings on aspects of patent validity are defeated by the PTO's position that it can leave some challenged claims untouched. The America Invents Act presents a new system of reviewing issued patents, providing for stays of district court proceedings, and estoppels in all tribunals, based on the PTO decision. Final determination of the validity of a challenged patent is not achieved when the PTO selects, at its sole and unreviewable choice, which claims it will review and which it will not touch.

App. 25a.

Judge Newman additionally noted that the statutory structure for inter partes review was carefully crafted by Congress, and its provisions are "designed to act in harmony, like a well-oiled engine." *Id.* at 26a. However, she added, "[i]ncorrect implementation by the agency distorts the framework, providing the now-observed result of protracted litigation grinding against administrative obstinacy. The victim is the Nation's innovation economy." *Id.*

4. SAS petitioned for rehearing *en banc* on the issue of whether the Board was obligated to issue a final written decision on all 16 of the challenged claims. On November 7, 2016, over Judge Newman's dissent, the Federal Circuit denied SAS's petition.

App. 87a. Her dissent from the denial of *en banc* rehearing addressed, *seriatim*, each of the relevant sections of the Smith-Leahy America Invents Act relevant to inter partes procedures (35 U.S.C. §§ 311-316 & 318), demonstrating that the statute's individual sections, as well as the statute as a whole, anticipated that final written decisions in inter partes review proceedings must reach all of the claims challenged by petitioners, not merely a subset thereof, else the statutory regime enacted by Congress would not work as intended. App. 93a-102a. Instead, the partial-institution, partial-decision regime adopted by the Patent Trial and Appeal Board, and now endorsed by two divided Federal Circuit panels, "leaves the unselected claims dangling, lacking both finality and estoppel, preventing the expediency and economy and efficiency that motivated the America Invents Act." App. 92a.

REASONS FOR GRANTING THE WRIT

I. THE FEDERAL CIRCUIT'S DECISION IS CONTRARY TO SECTION 318(a), AND TO THE AMERICA INVENTS ACT AND ITS PURPOSES

Section 318(a) is written in the plainest of English. It provides, as relevant here: "If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner . . . ." In this case, the conditions of Section 318(a) were met—"an inter partes review [was] instituted and not dismissed"—and so the Board was obligated to "issue a final written decision with

respect to the patentability of any patent claim challenged by the petitioner." Here, the petitioner (SAS) challenged all 16 claims of the ComplementSoft patent, but received a final written decision as to only nine of those 16 claims.

The Federal Circuit's contrary reading of the statute not only violates the canons of statutory construction; it also guts the America Invents Act of its intended effect—it "negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues," *Synopsys*, 814 F.3d at 1325 (Newman, J., dissenting), and throws a wrench into the works of a carefully crafted statutory regime. Certiorari should be granted so that the America Invents Act may be restored to its proper, intended scope.

A. Section 318(a) Requires "A Final Written Decision With Respect To The Patentability Of Any Patent Claim Challenged By The Petitioner"

Under the statute, "the patentability of any patent claim challenged by the petitioner" must be addressed in the Board's final written decision. 35 U.S.C. § 318(a). Here, the petitioner, SAS, challenged the patentability of claims 1-16 of the ComplementSoft patent. App. 42a. Under the plain language of Section 318(a), the Board's final written decision should have addressed the patentability of all 16 of those claims, and the Federal Circuit should have remanded the case to the Board for decisions on the seven claims it did not address.

B. The Federal Circuit's Interpretation Of Section 318(a) Violates The Section's Plain Language By Allowing Final Written Decisions On Less Than "Any Patent Claim Challenged By The Petitioner"

The Federal Circuit ruled otherwise. Relying on its decision in *Synopsys*, 814 F.3d at 1314-17, the Court of Appeals concluded that "the differing language [in the institution-decision subsection, 35 U.S.C. § 314(a)] implies a distinction between the two subsections such that § 318(a) does not foreclose the claim-by-claim approach the Board adopted there and in this case." App. 21a.

The Federal Circuit's claimed distinction between Sections 314(a) and 318(a) is not borne out by the statutory language. Section 314, entitled "Institution of inter partes review," provides—in the negative—that the Director of the Patent Office "may not authorize an inter partes review to be instituted unless the Director determines that [the information contained in the parties' institution-related filings] shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." That statutory subsection—entitled "THRESHOLD"—sets forth the threshold standard for instituting an inter partes review, which is that the preliminary filings must demonstrate a reasonable likelihood of success on at least one of the "claims challenged in the petition." Section 314(a) does not, however, explicitly authorize the Director to "institut[e] an inter partes review" that is limited to fewer patent claims than are challenged in the petition, nor does it say that

such a partial institution transforms the un-instituted patent claims into claims that are no longer "challenged by the petitioner," in the words of Section 318(a).

The Federal Circuit in *Synopsys*, however, believed that there was a meaningful distinction between Section 314(a)'s reference to "claims challenged in the petition" and Section 318(a)'s requirement of a final written decision as to any "claim challenged by the petitioner." 814 F.3d at 1315 (citing *Bailey v. United States*, 516 U.S. 137, 146 (1995)). Pursuant to the Federal Circuit's distinction, "claims challenged in the petition" and "any patent claim challenged by the petitioner" carry two entirely different meanings—the former referring to the claims challenged in the initial filing, and the latter to the claims that the Board, in its unreviewable discretion, allows the petitioner to continue to litigate post-institution.

That distinction is an untenable one as a matter of statutory language. For one, the provision governing institution, § 314(a), does not suggest that the Director is allowed to institute inter partes reviews on only some claims; she "may not authorize an inter partes review to be instituted unless [she] determines that the" pre-institution filings show "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Indeed, all of the relevant AIA provisions—§§ 312(a)(3), 314(a), 315(e), 316(a), and 318(a)—assume that inter partes review will proceed, and take the place of litigation on, all claims challenged by a petitioner in a petition; none

suggests that inter partes review will proceed on only a subset of the challenged claims.

For another, the facts of this case illustrate why the partial-institution, partial-decision practice is contrary to the statute. Here, SAS filed a petition challenging all 16 claims of the ComplementSoft patent. All 16 of those claims, therefore, were within the broad, linguistically unlimited scope of § 318(a)'s "*any* patent claim challenged by the petitioner." *See, e.g.*, *United States v. Gonzales*, 520 U.S. 1, 5 (1997) ("the word 'any' has an expansive meaning"). Claims 2 and 11-16 of the ComplementSoft patent were "challenged by the petitioner," SAS, in the only vehicle available for mounting such a challenge (the petition), yet SAS has never received a final written decision as to those claims as mandated by the statute.

Instead, the Federal Circuit rewrote the straightforward language of Section 318(a) to say that "the Board must issue a final written decision with respect to only those claims on which inter partes review has been instituted and which the Board has allowed the petitioner to pursue after the institution stage." Had Congress meant that, it could have said so, but it did not. There is no justification for the addition of such judicial embroidery upon the congressional language. *See, e.g.*, *Bates v. United States*, 522 U.S. 23, 29 (1997) ("[W]e ordinarily resist reading words or elements into a statute that do not appear on its face.").

Likewise, the Federal Circuit's suggestion that the conditional phrase in § 318(a)—"if an inter partes review is instituted"—"strongly suggests that the

'challenged' claims referenced are the claims for which inter partes review was instituted, not every claim challenged in the petition," *Synopsys*, 814 F.3d at 1315, is at best a circular argument. Nothing in § 314(a), or, indeed, anywhere in the AIA, allows or anticipates a partial-institution practice, and so the Federal Circuit's logic assumes its conclusion that partial inter partes reviews, and partial decisions, are appropriate. The statute says otherwise.

C. The Federal Circuit's Interpretation Also Runs Afoul Of The Act's Overall Language, Structure, And Manifest Purpose

Judge Newman's trio of dissenting opinions—in *Synopsys*, in the panel decision in this case, and from the denial of rehearing en banc in this case—sets forth, in detail, why the panel's interpretation of Section 318(a) will do harm to the efficient operation of the post-patent-issuance challenge regime that was established by the America Invents Act.

First, the language of the Act as a whole demonstrates that Congress did not design a piecemeal regime of post-patenting review, but one that, if initiated, would resolve all such challenges in a final written decision. Principal among these is the parallel language of Sections 312(a)(3), 314(a) and 318(a). Section 312(a)(3) requires a petition to "identif[y] in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." Section 314(a) empowers the Director to institute inter partes review only if "there is a reasonable

likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." And Section 318(a) requires the Board to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." These verbal constructs—"each claim challenged," "the challenge to each claim," "the claims challenged in the petition," and "any patent claim challenged by the petitioner"—plainly refer to the same thing: the patent claims that are challenged in the petition, by the petitioner. The fact that these parallel provisions appear in the same Act lends even greater weight to the conclusion that they should be interpreted identically in each section: An Act of Congress "should not be read as a series of unrelated and isolated provisions," which in turn compels "the 'normal rule of statutory construction' that 'identical words used in different parts of the same act are intended to have the same meaning.'" *Gustafson v. Alloyd Co.*, 513 U.S. 561, 570 (1995) (quoting *Department of Revenue of Ore. v. ACF Industries, Inc.*, 510 U.S. 332, 342 (1994)).

Second, as so forcefully articulated by Judge Newman's dissents, the Board's partial-decision process, which the Federal Circuit upheld, eliminates one of the core purposes of the act—the ability to have patentability determinations adjudicated in a single proceeding, either before the Board or in court. *Synopsys*, 814 F.3d at 1327-31 (Newman, J., dissenting); App. 30a-38a; App. 97a-100a; 35 U.S.C. § 315(e) (estoppel provision of America Invents Act).

Third, the partial-decision regime upheld by the Federal Circuit in this case and in *Synopsys* contradicts the legislative history of the Act, which

reflects the Act's intended purpose of allowing post-issuance review to serve as a substitute for, not a supplement to, litigation. In addressing the estoppel provisions of the Act, the House Judiciary Committee's report emphasized that allowing repeated attacks on patents could be used "as tools for harassment or a means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent," and so the Act precludes "improperly mounting multiple challenges to a patent or initiating challenges after filing a civil action challenging the validity [of] a claim in the patent." H. R. Rep. at 48, 2011 U.S.C.C.A.N. at 78.

The legislative statements of pivotal individuals confirm this understanding of the Act. Senator Grassley, "a central figure" in the enactment of the America Invents Act (*Synopsys*, 814 F.3d at 1327 (Newman, J., dissenting)), said that the purpose of the Act's estoppel provision, 35 U.S.C. § 315, was to "completely substitute for" adjudication of the same issues in litigation. 157 Cong. Rec. S1360-94 (daily ed. March 8, 2011). This understanding was echoed by then-USPTO-Director Kappos: "Those estoppel provisions mean that your patent is largely unchallengeable again by the same party." *America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 52-53 (2011).

Perhaps most notably, however, the legislative record contains no suggestion whatsoever that final written decisions of the Patent Trial and Appeal Board should extend to fewer than all of the claims challenged by the petitioner. *Synopsys*, 814 F.3d at 1333-36 (Newman, J., dissenting) ("canvass[ing] the entire record" of the legislative history).

Indeed, the United States Department of Justice, which was a petitioner in a recent inter partes review before the Patent Trial and Appeal Board, correctly challenged the Board's partial-institution, partial-decision practice: "[B]y picking and choosing some but not all of the challenged claims in its Decision, the Board has undermined the Congressional efficiency goal and increased the workload of both parties who are now forced to litigate validity between two forums—this board and the Court of Federal Claims." Petitioner's Request for Rehearing Pursuant to 37 C.F.R. § 42.71(d), U.S. Patent No. 7,323,980, *Department of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Nov. 29, 2016). The Board denied the Department of Justice's rehearing request on January 19, 2017, citing, *inter alia*, the Federal Circuit's *Synopsys* decision. *See* Decision Denying Petitioner's Request for Rehearing, *Department of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Jan. 19, 2017).

D. The Federal Circuit's Interpretation Cannot Be Saved By *Chevron*

The panel majority in *Synopsys* believed that the statute was "quite clear" and "strongly implies" allowing the PTO to "institute inter partes review on a claim-by-claim basis," 814 F.3d at 1315-16, and therefore to issue final written decisions only as to the claims on which review was instituted. However, the *Synopsys* majority added that, "if there were any doubt about the Board's authority and the statute were deemed ambiguous, the PTO has promulgated a regulation allowing the Board to institute as to some or all of the claims." *Id.* at 1316 (citing 37 C.F.R.

§ 42.108). According to the *Synopsys* majority, "this regulation is a reasonable interpretation of the statutory provision governing the institution of inter partes review" under *Chevron*, 467 U.S. 837. *Id.*

Chevron cannot save the Board's partial-institution, partial-decision regime. For one, as detailed above, the statutory language is clear, but not in the way the *Synopsys* majority thought. Section 314(a)'s threshold determination for commencing an inter partes review is a finding that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." This is neither "quite clear" nor does it "strongly impl[y]" that review, and decision, may be had on fewer than all of the challenged claims; rather, it is simply a definition of the "threshold" showing required before the inter partes review—which should thereafter take place, and yield a final written decision, on all challenged claims—may be instituted.

For another, even aside from Section 314(a), the statute's requirement in Section 318(a) that "the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner" would still remain. And whatever *Chevron* deference might attach to the interpretation of Section 314(a)'s language, it would remain the case that any claims on which inter partes review was not "instituted" under Section 314(a) would still be claims "challenged by the petitioner" under Section 318(a), and thus are still subject to that latter section's mandate ("shall issue") that the Board's final written decision must address all, not just some, of those challenged claims. As noted above, two different

Executive Branch agencies—the Department of Justice and the Patent and Trademark Office—appear to be at loggerheads over this issue, providing yet a further indication of the importance of this issue and the need for this Court's review.

So, too, it bears noting that when the Patent and Trademark Office first proposed its rule allowing for partial institution of inter partes reviews, the agency was met with numerous objections. In particular, the chief patent counsel of IBM objected that "the statute does not appear to leave discretion to provide a final written decision not addressing any claim that was initially challenged by the petitioner on the basis that the Office determined it to be 'not part of the trial.'" *Comments on Changes to Implement Inter Partes Review Proceedings*, IBM 5 at 3 (April 6, 2012) (available at http://www.uspto.gov/sites/default/files/aia_implementation/comment-ibm5.pdf, and quoted in *Synopsys*, 814 F.3d at 1329 (Newman, J., dissenting). The Office's response to this objection invoked "workload" and "statutory time constraints." 80 Fed. Reg. 50720, 50739 (Aug. 20, 2015) (quoted in *Synopsys*, 814 F.3d at 1330 (Newman, J., dissenting)).

This response was not an adequate reason for the Office to adopt a procedure contrary to the clear command of the statute. Of course, "an agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate." *Utility Air Regulatory Grp. v. Environmental Protection Agency*, 134 S. Ct. 2427, 2446 (2014). But beyond that, the Patent and Trademark Office has not, by this mechanism, achieved the alleviation of its own "workload" that the statute, by its actual terms, would allow: Because the institution decision is not

ordinarily reviewable, *see* 35 U.S.C. § 314(d); *Cuozzo*, 136 S. Ct. at 2139-42, there is no requirement in the AIA that the institution decision be any more reasoned than a simple up-or-down "notice" that an inter partes review has been instituted and will commence on a certain date. *See* 35 U.S.C. § 314(c) ("NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.").

Instead, however, the Board—as the delegate of the Director of the Patent and Trademark Office—has taken it upon itself to issue extended written determinations, *at the time of institution*, explaining the reasons why review was instituted or not. That is the Board's practice, and it was followed in this case. App. 103a-28a (23-page-long "Institution of *Inter Partes* Review" decision). As a result, the Board is effectively making non-final written decisions on non-instituted patent claims, but depriving those decisions of their intended estoppel effect under Section 315, as well as insulating them from judicial review under Section 319. The Director and the Board could easily honor the statute, with no negative effect on the Director's (or the Board's) workload, by foregoing those extensive, unreviewable, and non-estopping preliminary opinions, following the procedures established by Congress, and issuing comprehensive final written decisions on all challenged claims—complete decisions that can then be given complete estoppel effect and reviewed by the Federal Circuit.

Finally, the Office's use of its authority to prescribe regulations under Section 316(a)—which allows the Director to "se[t] forth the standards for the showing of sufficient grounds to institute a review under section 314(a)," but not to define the scope of such "review"—raises serious separation-of-powers concerns. Congress, in enacting the America Invents Act, established a comprehensive, detailed regime for the post-issuance review of patents. The Director's adoption of what amounts to a fundamentally different procedural regime for the review of issued patents, and the Federal Circuit's willingness to read the Act's various references to "claims challenged" not *in pari materia*, but in a fluid fashion, seeks to arrogate the legislature's power to the Executive and Judicial branches.

Whatever the wisdom of *Chevron*, it cannot be allowed such free rein as to allow the agency tasked with implementing the statute—here, the Patent and Trademark Office—to rewrite the law's procedures to serve its interests in convenience. The *Chevron* decision has been criticized recently as "permit[ting] executive bureaucracies to swallow huge amounts of core judicial and legislative power and concentrate federal power in a way that seems more than a little difficult to square with the Constitution of the framers' design." *Gutierrez-Brizuela v. Lynch*, 834 F.3d 1142, 1149 (10th Cir. 2016) (Gorsuch, J., concurring). Indeed, in *Cuozzo* itself, interpreting another (though related) provision of this same Act, Justice Thomas outlined and repeated his concerns over "*Chevron*'s fiction that ambiguity in a statutory term is best construed as an implicit delegation of power to an administrative agency to determine the

bounds of the law." 136 S. Ct. at 2148 (Thomas, J., concurring).

Here, because of that same kind of agency overreach, the Patent and Trademark Office has adopted—apparently for its own convenience—a set of procedures and decisional requirements which are inconsistent with the AIA. So Justice Thomas's and Judge Gorsuch's concerns about unconstitutional agency overreach are present and manifest here. Those constitutional concerns can be avoided here, however, by simply honoring the Congressional design of inter partes review—an institution decision that grants or denies the petition, 35 U.S.C. § 314, followed, if the review is granted, by a final written decision addressing "the patentability of any patent claim challenged by the petitioner." *Id.* at § 318(a). That way, the final written decision can have the intended estoppel effect as a substitute for court litigation, *id.* at § 315, and can be subject to judicial review, *id.* at § 319, just as the AIA intended.

II. THE QUESTION OF SECTION 318(a)'S PROPER INTERPRETATION IS SQUARELY PRESENTED IN THIS CASE, AND CRITICALLY IMPORTANT TO THE ORDERLY ADMINISTRATION OF THE NATION'S PATENT SYSTEM

This case is not just an appropriate vehicle for this Court to consider the issue presented; it is, as a practical matter, likely to be the best vehicle for doing so. Because of the Federal Circuit's exclusive nationwide appellate jurisdiction over appeals from the Patent Trial and Appeal Board, *see* 28 U.S.C. § 1295(a)(4)(A), the *Synopsys* decision and this case

will be cemented as the law of the land absent this Court's intervention—there can be no circuit split, and it is unlikely that any future litigant will be in a position to challenge this extra-statutory regime in view of this binding, conclusive precedent.

Though a circuit split cannot exist in this case, this case satisfies all of the other usual criteria for review: It presents an important, pure question of law—the proper construction of Section 318(a)—which is squarely presented on this record, and was squarely decided by the Court of Appeals, with multiple, vigorous dissents by the seniormost member of that Court. And this important issue has now divided two Executive Branch agencies. *See* p. 18, *supra*. Between the *Synopsys* decision and this case, the issue has now received as much ventilation and percolation as it will ever get.

The issue cuts across all aspects of post-patent-issuance review—inter partes reviews (IPRs), post-grant reviews (PGRs), and covered business method reviews (CBMRs). As noted above, *supra* n.1, the same statutory requirement applies to final written decisions in each type of proceeding. *See* 35 U.S.C. §§ 318(a), 328(a). And the PTO's corresponding rule for PGRs and CBMRs also uses the same language, *see* 37 C.F.R. § 42.208(a). Accordingly, resolution of this issue will affect the proper procedures of all future post-issuance proceedings under the AIA.

And finally, the issue is critically important to the proper administration of the Nation's patent laws. Published statistics show that as of 2014—the last year for which the Patent and Trademark Office has made such data available—the Board was partially

instituting (and thus partially deciding) inter partes and covered-business-method review in over 25% of the petitions presented to it. *See AIA Trial Roundtables*, www.uspto.gov/ip/boards/bpai/ptab_roundtable__slides_may_update__20140503.pdf (Slide 25) (last visited Jan. 30, 2017). Without this Court's review, and correction, of the Board's institution and decision procedures, these *ultra vires* practices will affect hundreds upon thousands of cases in the near future, and will have the further undesired effect of clogging court dockets with redundant patent litigation, "thereby adding to the litigants' [and the courts'] burden rather than lightening it." App. 31a-32a (Newman, J., dissenting).

CONCLUSION

The petition should be granted.

Respectfully submitted,

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January 31, 2017

APPENDIX

APPENDIX A

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

Decided: June 10, 2016

JOHN MARLOTT, Jones Day, Chicago, IL, argued for appellant. Also represented by GREGORY A. CASTANIAS, Washington, DC; DAVID B. COCHRAN, Cleveland, OH; MATTHEW JOHNSON, Pittsburgh, PA.

MATTHEW TOPIC, Loevy & Loevy Attorney at Law, Chicago, IL, argued for cross-appellant.

JOSEPH GERARD PICCOLO, Office of the Solicitor, United States Patent and Trademark Office,

Alexandria, VA, argued for intervenor. Also represented by THOMAS W. KRAUSE, SCOTT WEIDENFELLER, STACY BETH MARGOLIES.

Before NEWMAN, CHEN, and STOLL, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* STOLL.

Opinion concurring-in-part and dissenting-in-part filed by *Circuit Judge* NEWMAN.

STOLL, *Circuit Judge*.

SAS Institute, Inc. filed an inter partes review ("IPR") petition with the Patent Trial and Appeal Board ("Board") to review the patentability of ComplementSoft's U.S. Patent No. 7,110,936. The Board instituted an IPR proceeding on some, but not all, of the '936 patent claims challenged in SAS's petition. The Board ultimately found all of the instituted claims, except for claim 4, unpatentable in view of the prior art. SAS argues on appeal that the Board misconstrued a claim term and that the Board erred by not addressing in the final written decision claims SAS petitioned against, but that the Board did not institute as part of the proceeding. ComplementSoft cross-appeals two of the Board's claim constructions. For the reasons below, we agree with the Board on all of the challenged constructions and determine that the Board did not need to address in its final written decision claims it did not institute. We also vacate the Board's determination that claim 4 is patentable and remand so that the parties may address a new construction that the Board adopted in its final written decision after interpreting the claim differently before.

BACKGROUND

I.

ComplementSoft is the assignee of the '936 patent, issued September 19, 2006, and directed to an "Integrated Development Environment for generating and maintaining source code . . . in particular, programmed in data manipulation languages." '936 patent col. 2 ll. 8–11. The patent characterizes a development environment as comprising a set of software tools allowing users to develop, edit, and debug software for a particular programming language or set of programming languages. *Id.* col. 1 ll. 32–48. The development environment contemplated by the '936 patent utilizes a graphical user interface and is particularly designed for data manipulation languages, including SAS®, which is developed by the appellant. *Id.* col. 1 l. 64 – col 2 l. 3, col. 2 l. 11. The specification describes that the development environment of the '936 patent serves three primary functions: (1) it allows users to locally edit code stored on a central server; (2) it detects a user's programming language and parses code accordingly; and (3) it generates representative visualization of such code, which can be directly edited to effect a change to the underlying code. *Id.* col. 2 l. 8 – col. 3 l. 20.

The specification describes that four major components of the '936 patent design environment are a document manager, an editor, a parser layer, and a visualizer. The document manager is a program that performs enhanced file management functions. *Id.* col. 6 ll. 22–42. The editor allows a user to edit and debug source code using standard text-editing functions. *Id.* col. 7 l. 3 – col. 8 l. 7. The

parser layer examines source code, detects which programming language is being used in the code, and applies rules and logic corresponding to that programming language. *Id.* col. 9 ll. 38–53, col. 17 ll. 30–45. Finally, the visualizer works in conjunction with the parser layer to parse the code and display it graphically using icons connected with arrows. *Id.* col. 8 ll. 8–12.

The '936 patent discloses two types of visualizations, those for program flows and those for data flows. Program flow diagrams contain programming block icons, which represent sections of source code, linked with arrows that depict the overall flow of the program. *Id.* col. 2 ll. 38–40, col. 15 ll. 56–59. Figure 9 of the '936 patent depicts a program flow.

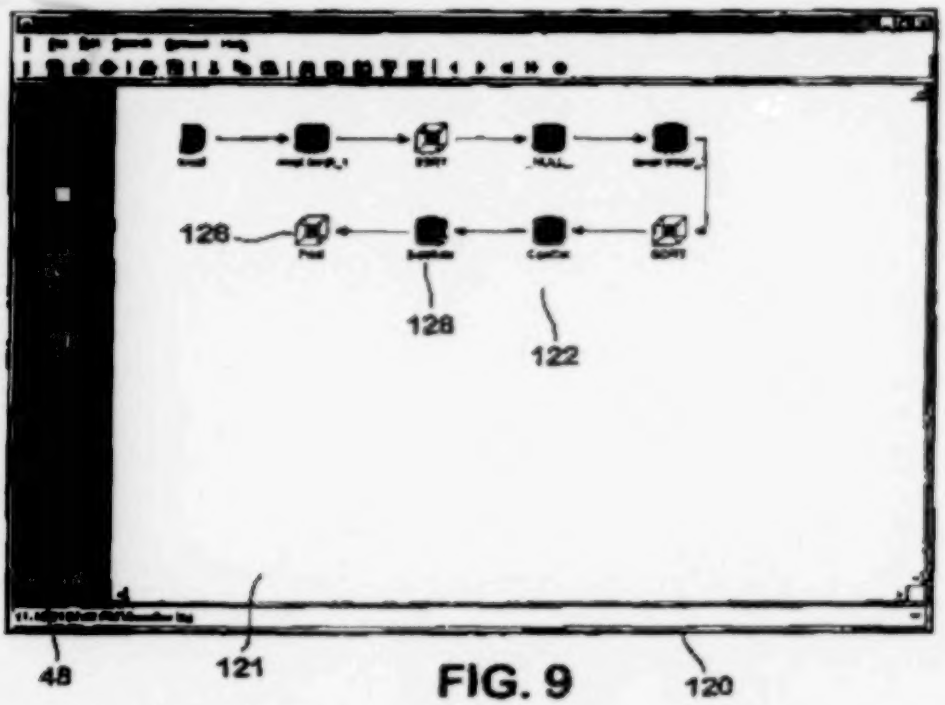

FIG. 9

Data flow diagrams, the other visualization disclosed by the '936 patent, "are comprised of icons depicting

data processing steps and arrows to depict the flow of the data through the program." *Id.* col. 2 ll. 40–42. Figure 17 of the '936 patent depicts a data flow.

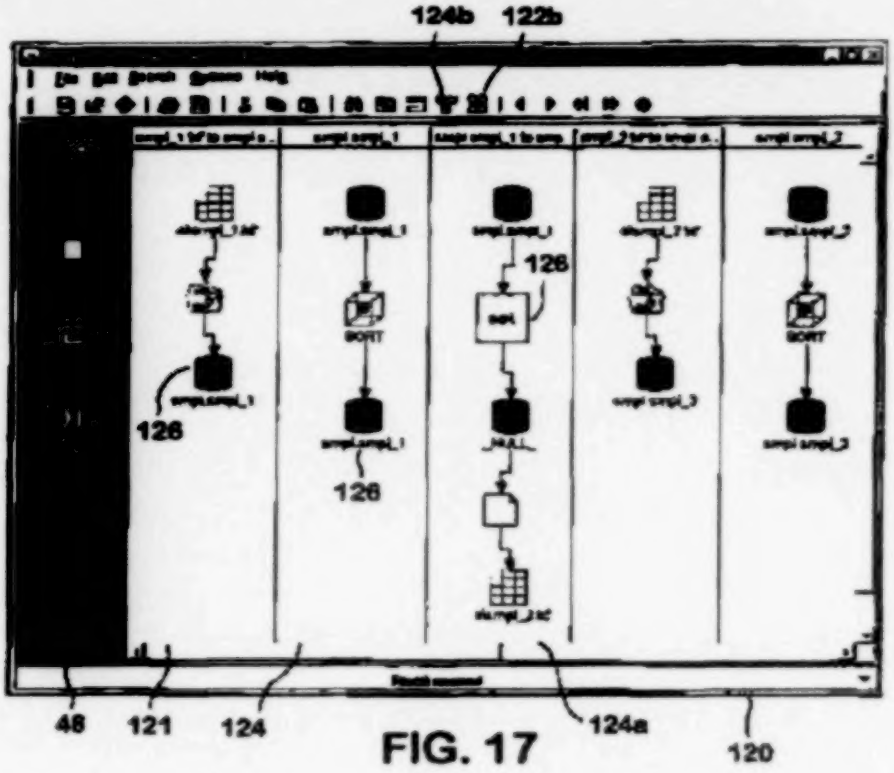

FIG. 17

During prosecution, the patentee added the "data manipulation languages" limitation to the claims in response to a prior art rejection based on U.S. Patent No. 6,851,107 to Coad ("the Coad patent"). The Coad patent generally describes a design environment for purely object-oriented programming languages, such as Java and C++. In response to the patentee's amendment, the examiner allowed the claims to issue, stating that the Coad patent does not disclose "that the detected language is a data manipulation language." J.A. 528.[1]

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[1] Citations to "J.A. ___" refer to the Joint Appendix filed by the parties.

The claims at issue in this appeal are independent claim 1 and dependent claim 4. They recite:

1. An integrated development environment, comprising:

a document manager for retrieving source code programmed using one of a plurality of types of *data manipulation languages*;

an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

a parser layer which detects the one of the plurality of types of *data manipulation languages* in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of *data manipulation languages*; and

a visualizer dynamically linked to the editor for displaying *graphical representations of flows* within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of *data manipulation languages* and activated by the parser, wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the *graphical representations of flows* displayed by the visualizer and edits made to the *graphical representations of flows* in the visualizer are automatically reflected in the source code displayed by the editor.

4. The integrated development environment as recited in claim 1, wherein the *graphical*

representations of data flows are expandable and collapsible.

Id. col. 18 ll. 19–43, 50–52 (emphases added).

II.

SAS petitioned for IPR of the '936 patent, alleging that all sixteen of the patent's claims were unpatentable as anticipated under 35 U.S.C. § 102 or as obvious under 35 U.S.C. § 103. [2] The Board instituted IPR for claims 1 and 3–10 on obviousness grounds, but did not institute IPR for claims 2 and 11–16. Relevant to this appeal, the Board's institution decision construed "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database," and "graphical representations of flows within the retrieved source code" as "a diagram that depicts a map of the progression (or path) through the source code." SAS *Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00226, 2013 WL 8595939, at *4–6 (PTAB Aug. 12, 2013) (*Institution Decision*). The institution decision also interpreted "graphical representations of data flows" to mean "a depiction of a map of the path of data through the executing source code." *Id.* at *12.

The Board's final written decision concluded that claims 1, 3, and 5–10 of the '936 patent were unpatentable as obvious in view of the prior art. At

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[2] The versions of 35 U.S.C. §§ 102 and 103 that apply here are those in force preceding the changes made by the America Invents Act, given the effective filing dates of the claims of the '936 patent. See Leahy–Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 293 (2011).

the same time, the Board found claim 4 patentable over the prior art. Particularly, the Board found that the prior art did not satisfy the "graphical representations of data flows" limitation in claim 4, which it newly construed to mean "a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code." [3] The Board's construction of this purportedly unmet claim limitation differed from the interpretation the Board gave in its institution decision: "a depiction of a map of the path of data through the executing source code." *Institution Decision*, 2013 WL 8595939, at *12. The final written decision did not review patentability of claims 2 and 11–16 for which the Board did not institute IPR. *See SAS Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00226, 2014 WL 3885937, at *24 & n.3 (PTAB Aug. 6, 2014) (*Final Written Decision*) ("Claims 2 and 11–16 are not at issue in this trial.").

SAS sought rehearing before the Board, which the Board denied. SAS then timely appealed to this court, and ComplementSoft timely cross-appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(c) to review the Board's final written decision.

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[3] The final written decision actually construed the shorter term "data flows." The Board, however, in its denial of SAS's request for rehearing, clarified that the construction applies equally to the longer claim term "graphical representations of data flows," else the construction would repeat the "graphical representations" language found in the claim. *SAS Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00226, Paper No. 40, at *3–4 (PTAB Nov. 10, 2014) (*Rehearing Denial*).

DISCUSSION

On appeal, SAS argues that the Board erred by construing "graphical representations of data flows" in claim 4 as "a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code." SAS also argues that it was improper for the Board to change its interpretation of this claim term in the final written decision without affording the parties an opportunity to respond. SAS lastly argues that the Board's final written decision is deficient for failing to address the patentability of all claims SAS included in its IPR petition, including those for which the Board did not institute IPR. ComplementSoft cross-appeals, arguing that the Board erred in construing two terms in claim 1: "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database"; and "graphical representations of flows within the retrieved source code" as "a diagram that depicts a map of the progression (or path) through the source code." We first address the parties' claim construction arguments and then move to SAS's remaining arguments.

I.

"The ultimate construction of the claim is a legal question and, therefore, is reviewed de novo." *Info-Hold, Inc. v. Applied Media Techs. Corp.*, 783 F.3d 1262, 1265 (Fed. Cir. 2015). Further, claim construction based solely upon intrinsic evidence—meaning the patent claims, the patent specification, and the prosecution history—is a matter of law reviewed de novo. *Teva Pharms. USA, Inc. v. Sandoz,*

Inc., 135 S. Ct. 831, 841 (2015). On the other hand, when extrinsic evidence is relied upon, we review the Board's "underlying factual determinations involving extrinsic evidence for substantial evidence." *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1297 (Fed. Cir. 2015) (citing *Teva*, 135 S. Ct. at 841–42).

Claim construction seeks to ascribe the meaning to claim terms as a person of ordinary skill in the art at the time of invention would have understood them. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In an IPR proceeding, claims are given their broadest reasonable interpretation in light of the specification. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1279 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, No. 15-446, 2016 WL 205946 (U.S. Jan. 15, 2015). In construing terms, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. Indeed, the specification is "the single best guide to the meaning of a disputed term" and "[u]sually, it is dispositive." *Id.* Thus, "claims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996)).

A.

The Board ultimately construed "graphical representations of data flows" as "a graphical

representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code." *Final Written Decision*, 2014 WL 3885937, at *10. In construing this term, the Board recognized that the specification did not use the claim term at all. The Board also recognized, however, that the specification spoke extensively about "data flow diagrams" and, in fact, defined them as comprising "icons depicting data processing steps and arrows to depict the movement of data through source code." '936 patent col. 2 ll. 40–42. After determining that there was no reason to conclude that the patentee meant something different between the terms "graphical representations of data flows" and "data flow diagrams," the Board used the specification's definition of data flow diagrams to construe graphical representations of data flows.

We agree with the Board's construction. SAS argues that because the Board's construction is narrow, it cannot be the broadest reasonable interpretation of the claim term. This is not so. While we have endorsed the Board's use of the broadest reasonable interpretation standard in IPR proceedings, we also take care to not read "reasonable" out of the standard. This is to say that "[e]ven under the broadest reasonable interpretation, the Board's construction cannot be divorced from the specification and the record evidence, and must be consistent with the one that those skilled in the art would reach." *Proxyconn*, 789 F.3d at 1298 (internal quotation marks omitted) (first quoting *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011); and then quoting *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999)). The broadest reasonable interpretation here

is that the claimed "graphical representation of a data flow" is commensurate with the "data flow diagram" described in the specification. The Board noted this, concluding that the specification suggests that the terms "data flow diagram" and "graphical representation of data flow" are interchangeable. *Final Written Decision*, 2014 WL 3885937, at *10; *Rehearing Denial*, IPR2013-00226, Paper No. 40, at *4. The only difference between these two phrases is the word "diagram" in the first phrase and the word "graphical representation" in the other. And a diagram is, in fact, a graphical representation. Because the specification explicitly defines data flow diagram, one of skill in the art having read the specification would apply this definition to graphical representations of data flows as well.

What the specification also makes clear is that program flows differ from data flows. The Board correctly noted that the specification consistently distinguishes these flows. *See Rehearing Denial*, IPR2013-00226, Paper No. 40, at *5 (citing '936 patent col. 2 ll. 38–42, col. 8 ll. 8–14, col. 16 ll. 6–30); see also '936 patent abstract, col. 2 ll. 33–38, col. 3 ll. 3–5. The specification crystallizes this distinction when it describes a user having to "toggle between the program flow and the data flow display" in the visualizer. '936 patent col. 15 ll. 50–56. The figures also show that program flows differ from data flows. *Compare id.* Fig. 9, *with id.* Fig. 17. To the extent that SAS argues that the specification describes a representation of a program flow as depicting the flow of data, we disagree that one of skill in the art would equate this with a graphical representation of a data flow, given the specification's consistent

disjunction of the two flows. Thus, it is not in error for the Board's construction of "graphical representation of data flow" in claim 4 to exclude program flows.

The structure of the claims also lends support to the Board's construction. *See Phillips*, 415 F.3d at 1314 ("Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term."). Independent claim 1 recites broadly "graphical representations of flows," and dependent claims 2 and 3 recite more specifically that the flows are "data flows" or "program flows," respectively. '936 patent col. 18 ll. 19–49. This structure is consistent with the specification, which first discloses visualizations generally and then immediately defines program flow diagrams and data flow diagrams as distinct things. *See id.* col. 2 ll. 33–42. We therefore reject SAS's argument that the Board construed the term "graphical representations of data flows" too narrowly.

B.

On cross-appeal, ComplementSoft first challenges the Board's construction of "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." ComplementSoft argues that this construction should limit the claim term to program languages that are solely purposed for creating datacentric programs and which provide direct access to a database. Particularly, ComplementSoft would have us exclude object-oriented languages altogether—even when implemented with embedded data manipulation code

using Structured Query Language ("SQL")—because the prior art Coad patent the patentee distinguished during prosecution discussed object-oriented languages. ComplementSoft makes this argument under a theory of prosecution history disclaimer.

The prosecution history of a patent, though "less useful for claim construction purposes" than the claim language and written description, plays various roles in resolving uncertainties about claim scope. *Phillips*, 415 F.3d at 1317. "[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Omega Eng'g, Inc., v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003). "Where the alleged disavowal is ambiguous, or even 'amenable to multiple reasonable interpretations,' *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1359 (Fed. Cir. 2003), we have declined to find prosecution disclaimer." *Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) (citing *Omega Eng'g*, 334 F.3d at 1325 ("[W]e have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope."); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1327 (Fed. Cir. 2002)).

Prosecution history disclaimer does not apply in this case, at least not as ComplementSoft would have it. There is simply nothing in the prosecution history to suggest that SQL, which the '936 patent specification specifically identifies as a data manipulation language, embedded within another programming language does not satisfy the "data manipulation language" limitation. It is true that

ComplementSoft added the "data manipulation language" limitation to avoid the Coad patent, but the Coad patent never discloses or suggests embedded data manipulation coding. At most, the patentee disclaimed object-oriented programming languages without any data manipulation components. There is no clear and unmistakable evidence that the patentee disclaimed anything more.

The Board also examined the specification and found that it did not limit data manipulation languages to those providing direct access to a database. In other words, the Board found that the specification does not exclude embedding database access within object-oriented language code. We agree. And because the specification and prosecution history did not conclusively resolve construction, we also agree that it was appropriate for the Board to rely on dictionaries and expert testimony to aid its construction. Those sources lend support to the Board's construction.

ComplementSoft lastly argues that "access" to data in a database is not enough to make a programming language a "data manipulation language." As the Board noted, ComplementSoft's own expert and a named inventor on the '936 patent provided testimony that contradicts this argument. Thus, we agree with the Board that this argument is not compelling. For these reasons, we agree with the Board's construction of "data manipulation languages."

ComplementSoft's second construction challenge relates somewhat to its first. ComplementSoft argues that when the Board construed "graphical representations of flows within the retrieved source

code" to mean "a diagram that depicts a map of the progression (or path) through the source code," it failed to limit the graphical representations to only depicting segments of source code that manipulate data.

Because we have already determined that a "data manipulation language" is not limited to languages that only perform data manipulation, we likewise do not inject a similar limitation into claim 1. Doing so would run counter to the disclosure in the specification. Figures 9, 19, and 20, for instance, are graphical representations of flows. Included within these representations is an icon for a "Print" operation, which is not a data manipulation step. Thus, we agree with the Board's construction and do not insert an additional limitation that all depicted steps must relate to data manipulation.

II.

As noted above, we agree with the Board's ultimate construction of the "graphical representations of data flows" claim term. The Board's procedure for arriving at this construction, however, gives us pause.

In its institution decision, the Board's claim construction section indicated that "data flow diagram" means "a map of the path of data through the executing source code." *Institution Decision*, 2013 WL 8595939, at *5. The Board equated this interpretation of "data flow diagram" with the claim limitation "graphical representations of data flows" when it denied institution of a prior art ground. Particularly, the Board concluded that SAS had not demonstrated that the prior art ground disclosed "a depiction of a map of the path of data through the

executing source code" and thus had not shown that the ground "discloses a graphical representation of a data flow." *Id.* at *11–12 (internal quotation marks omitted).

ComplementSoft filed its patent owner's response and identified "a diagram that depicts a map of the path of data through the executing source code" as the Board's construction for the term "graphical representations of data flows." While it argued that the Board misconstrued the "data manipulation language" term, it did not similarly argue that the Board misconstrued graphical representations of data flows. SAS's reply took issue with the construction's inclusion of the term "executing," but suggested no modifications other than to remove this term from the construction. The parties did not ask for a revised construction of "graphical representations of data flows" at the oral hearing.

The Board's final written decision acknowledged that "the parties directly disagree regarding only the construction of the term 'data manipulation language.'" *Final Written Decision*, 2014 WL 3885937, at *3. Nonetheless, the Board newly construed "graphical representations of data flows" as "a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code," *id.* at *10, which varies significantly from its initial interpretation of the term as "a map of the path of data through the executing source code." *Institution Decision*, 2013 WL 8595939, at *12. In denying SAS's request for rehearing, the Board concluded that the new construction did not prejudice SAS because SAS could have made construction arguments for the term

in its IPR petition. *Rehearing Denial*, Paper No. 40, at *3–4 n.1.

We disagree with the Board's approach. As we have noted, IPR proceedings are formal administrative adjudications subject to the procedural requirements of the Administrative Procedure Act ("APA"). S*ee Dell Inc. v. Acceleron, LLC*, 818 F.3d 1293, 1298 (Fed. Cir. 2016); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015); *see also Dickinson v. Zurko*, 527 U.S. 150, 154 (1999). One such APA provision is that "[p]ersons entitled to notice of an agency hearing shall be timely informed of . . . the matters of fact and law asserted." 5 U.S.C. § 554(b)(3); *see Dell*, 818 F.3d at 1298. SAS, as the petitioner, is entitled to this procedural protection in this instance. Although in the past we have discussed § 554(b)(3) with respect to the protection it provides to the patent owner, the provision is not so limited in an instituted IPR proceeding. First, the APA provides that this protection applies to "[p]ersons entitled to notice of an agency hearing." 5 U.S.C. § 554(b)(3). In an IPR proceeding, this class of persons includes the petitioner. *See* 35 U.S.C § 316(a)(10) (directing the PTO to promulgate regulations "providing either party"—i.e., petitioner or patent owner—"with the right to an oral hearing as part of the proceeding"); 37 C.F.R. § 42.70 (providing that "[a] party may request oral argument" before the Board). Moreover, affording petitioners with the benefit of § 554(b)(3) is appropriate because petitioners are not disinterested parties in an IPR proceeding. Rather, petitioners stand to lose significant rights in an instituted IPR proceeding because of the estoppel effects that trigger

against them if the Board issues a final written decision. *See* 35 U.S.C. § 315(e).

We have interpreted § 554(b)(3) in the context of IPR proceedings to mean that "'an agency may not change theories in midstream without giving respondents reasonable notice of the change' and 'the opportunity to present argument under the new theory.'" *Belden*, 805 F.3d at 1080 (quoting *Rodale Press, Inc. v. FTC*, 407 F.2d 1252, 1256–57 (D.C. Cir. 1968)); *see also Dell*, 818 F.3d at 1300–01 (holding that the Board, in relying on factual assertions the petitioner introduced for the first time at the oral hearing, violated § 554(b)(3) because the patent owner did not have a meaningful opportunity to respond). That maxim applies in this fact-specific circumstance. What concerns us is not that the Board adopted a construction in its final written decision, as the Board is free to do, but that the Board "change[d] theories in midstream." *Belden*, 805 F.3d at 1080. SAS focused its argument on the Board's institution decision claim interpretation, a reasonable approach considering ComplementSoft agreed with this interpretation in its patent owner's response and never suggested that the Board adopt the construction that eventually materialized in the final written decision. It is difficult to imagine either party anticipating that already-interpreted terms were actually moving targets, and it is thus unreasonable to expect that they would have briefed or argued, in the alternative, hypothetical constructions not asserted by their opponent. This is especially true for SAS, considering the strict fifteen

page limit for its reply to the patent owner's response. *See* 37 C.F.R. § 42.24(c)(1) (2012).[4]

Finally, to be clear, it is uncertain whether SAS will ultimately be able to show unpatentability of the '936 patent claim 4 even under the construction of "graphical representations of data flows" that the Board adopted and that we agree with. That is not for us to decide today, but for the Board to examine in the first instance after hearing from the parties on the new construction. *See Dell*, 818 F.3d at 1301 (remanding to the Board for further proceedings upon finding § 554(b)(3) not satisfied).

III.

SAS also argues that the Board erred by not addressing in the final written decision every '936 patent claim SAS challenged in its IPR petition. The Board's final written decision, rather, addresses patentability of only those claims for which the Board instituted an IPR proceeding. SAS's argument, however, is foreclosed by our recent decision in *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016).

Synopsys presented the same question that SAS raises here: Must a final written decision by the

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[4] 37 C.F.R. § 42.24(c)(1) has been amended to provide 5,600 words for petitioner replies to patent owner responses. *See* Amendments to the Rules of Practice for Trials Before the Patent Trial and Appeal Board, 81 Fed. Reg. 18750, 18765 (April 1, 2016). When SAS filed its petitioner reply on February 12, 2014, however, the old regulation limiting the reply to fifteen pages was in effect. *See* Rules of Practice for Trials Before the Patent Trial and Appeal Board, 77 Fed. Reg. 48669, 48673 (August 14, 2012).

Board address every patent claim challenged in an IPR petition?[5] The petitioner argued, as does SAS, that the text of the final written decision statutory subsection, 35 U.S.C. § 318(a), compels the Board to address every petition-challenged claim. We found, however, "no statutory requirement that the Board's final decision address every claim raised in a petition for inter partes review. Section 318(a) only requires the Board to address claims as to which review was granted." *Id.* at 1316–17. We found it significant that § 318(a) describes "claims challenged by the petitioner," whereas the institution decision statutory subsection, 35 U.S.C. § 314, describes "claims challenged in the petition." We reasoned that the differing language implies a distinction between the two subsections such that § 318(a) does not foreclose the claim-by-claim approach the Board adopted there and in this case. Further, we upheld the validity of a PTO-promulgated regulation authorizing the claim-by-claim approach. *Id.* at 1316 (validating 37 C.F.R. § 42.108, which "authorize[s] the review to proceed on all or some of the challenged claims").

Accordingly, we reject SAS's argument that the Board must address all claims challenged in an IPR petition in its final written decision.

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[5] Indeed, not only did SAS's briefing identify *Synopsys* as a related case, but SAS also submitted a brief as amicus curiae in *Synopsys* urging us to reach the same result that it now argues for in this appeal. *See* Brief of Amicus Curiae SAS Institute, Inc. in Support of Appellant Synopsys, Inc., *Synopsys*, 814 F.3d 1309 (Nos. 14-1516, 14-1530).

CONCLUSION

For the foregoing reasons, we agree with the Board regarding the challenged constructions and conclude that SAS's argument that the Board must address all claims from the IPR petition in the final written decision is foreclosed by *Synopsys*. We vacate the Board's patentability determination of claim 4 and remand so that the parties may address the Board's construction of "graphical representations of data flows."

AFFIRMED-IN-PART, VACATED-IN-PART, AND REMANDED

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

NEWMAN, *Circuit Judge*, concurring in part, dissenting in part.

I concur in Parts I and II of the majority opinion, for I agree that principles of due process, as well as the strictures of the Administrative Procedure Act as applied to the America Invents Act (AIA) and the Patent and Trademark Office (PTO), require that the parties have the opportunity to adjust their arguments and evidence to the Patent Trial and Appeal Board's (PTAB's) change in claim construction.

I write separately because the PTAB's practice of deciding the validity of only some of the patent claims challenged in the petition does not conform to the America Invents Act. I stated these concerns in *Synopsys, Inc., v. Mentor Graphics Corp.*, 814 F.3d

1309, 1324, 117 U.S.P.Q.2d 1753, 1765 (Fed. Cir. 2016) (Newman, J., dissenting). The facts and rulings in the present case further illuminate the error in the PTO's adoption of rules that depart from the legislative plan. The exclusion of some of the challenged claims from the statutory procedures and estoppels of the AIA, accomplished by accepting some of the claims for which review is sought while ignoring others, in the PTO's absolute discretion, serves no purpose other than to negate the intended legislative purpose of the AIA.

The PTO practice replaces the benefits of the America Invents Act with new disadvantages, for, after the extensive (and expensive) proceedings of *inter partes* review, the parties are left with unaddressed claims to the same patented invention, claims that can be litigated as if no post-grant proceeding had occurred. This departure from the legislative purpose is illustrated in this case more strongly than in *Synopsys*, for here the PTAB issued a split final decision, invalidating eight petitioned claims while validating one of the petitioned claims, simultaneously ignoring seven other petitioned claims that were properly presented for review. The split decision, following a partial institution, adds to the uncertainty of the claims that the PTAB chose not to review. The legislative plan contains no hint of such intentional irregularity.

As experience is gathered on diverse factual situations and the PTO's erratic implementation, concerns have arisen within the communities that collaborated in the evolution of the America Invents Act. It is incumbent on the courts to assure the correct statutory interpretation by administrative

agencies charged with statutory administration. Thus I respectfully dissent from Part III of the majority opinion, and the majority's ratification of the PTO practice of addressing only some of the challenged claims in a fully compliant IPR petition.

DISCUSSION

The America Invents Act created a new expert tribunal, charged to act with expedition and economy. Its purpose is to facilitate both the validation of properly issued patents and the elimination of invalid patents, both in service to the compelling national interest in invention and innovation. The PTO's position that it need not review some of the claims challenged in a petition for review via a post-grant proceeding is inconsistent with the Act. The PTO is authorized to refuse to institute review entirely—but a partial review cannot be inferred from the statute or accommodated to its purpose.

The statutory provisions and the legislative purpose of substituting an agency tribunal for district court proceedings on aspects of patent validity are defeated by the PTO's position that it can leave some challenged claims untouched. The America Invents Act presents a new system of reviewing issued patents, providing for stays of district court proceedings, and estoppels in all tribunals, based on the PTO decision. Final determination of the validity of a challenged patent is not achieved when the PTO selects, at its sole and unreviewable choice, which claims it will review and which it will not touch.

The post-grant procedures of the America Invents Act are of great power and promise. However, as implemented by the PTO, these procedures have

produced a startlingly destabilizing effect. As an *amicus curiae* stated in an AIA case before the Supreme Court on a different aspect of the statute, "IPR was meant to open an alternative pathway to the accurate resolution of patent disputes, not a gaping loophole that undermines the integrity of both administrative and federal court patent adjudications." Brief for Intellectual Ventures as Amicus Curiae Supporting Petitioner, *Cuozzo Speed Techs., LLC v. Lee* (No. 15-446), 2016 WL 825549.

The AIA provisions are designed to act in harmony, like a well-oiled engine. Incorrect implementation by the agency distorts the framework, providing the now-observed result of protracted litigation grinding against administrative obstinacy. The victim is the Nation's innovation economy.

Statutory compliance is the judicial obligation. I focus on specific statutory provisions that relate to, and are violated by, the PTO's practice of partial decision of IPR petitions, *viz.*, 35 U.S.C. §§ 311, 312, 314, 315, and 318, and AIA Section 18(a)(D).

35 U.S.C § 311. Inter Partes Review

Section 311 states the scope of *inter partes* review, and limits such review to challenges that "could be raised under section 102 and 103 and only on the basis of prior art consisting of patents or printed publications." 35 U.S.C. § 311(b). The AIA proceeding is structured as a complete alternative to litigation of these issues. In providing a meaningful alternative to district court litigation of these primary issues of patent validity, Congress designed the AIA to achieve expeditious and economical final resolution. *See, e.g., Patent Reform Act of 2009:*

Hearing Before the House Comm. on the Judiciary, 111th Cong. 153 (2009) (statement of Rep. Manzullo) ("It is clearly appropriate to have an administrative process for challenging patent validity, but it should exist within a structure that guarantees a quick—and final—determination.").

The legislative record is uniform and compelling. *See, e.g., Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. on the Judiciary*, 110th Cong. 13 (2007) (statement of Jon Dudas, Director, USPTO) ("[T]he estoppel needs to be quite strong that says on the second window any issue that you raised or could have raised you can bring up no place else. That second window, from the administration's position, is intended to allow nothing—a complete alternative to litigation.").

At enactment of the AIA in 2011, Senator Grassley summarized that

> if an inter partes review is instituted while litigation is pending, that review will completely substitute for at least the patents-and-printed-publications portion of the civil litigation.

157 Cong. Rec. S1360-94 (daily ed. March 8, 2011) (statement of Sen. Grassley).

The intended complete alternative and complete substitution is impossible if the PTAB chooses incomplete review. That is my concern with Part III of the majority opinion.

35 U.S.C. § 312. Petitions for review

Section 312 sets the requirements for petitions for post-grant review. Among others, the petition must identify:

> [I]n writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—
>
> (A) copies of patents and printed publications that the petitioner relies upon to support the petition, and
>
> (B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

35 U.S.C. § 312(a)(3). The purpose of these detailed filing requirements is: "to force a petitioner to present all of his best evidence against a patent up front. His petition itself must present a full affirmative case. It thus reinforces the front loaded nature of an oppositional system, which is critical to the efficient resolution of proceedings by the PTO." 154 Cong. Rec. S9982-93 (daily ed. Sept. 25, 2008) (statement of Senator Kyl on S. 3600).

In the case at bar, SAS presented complete evidence as to all of the claims that it challenged in the petition, and ComplementSoft provided a full response. Nonetheless, the PTO refused to consider all of the claims that had been placed at issue, leaving seven claims undecided.

The petition for review sets the boundaries of the IPR proceeding, as summarized by Senator Grassley on enactment of S. 23, that "by requiring petitioners to tie their challenges to particular validity arguments against particular claims, the new threshold will prevent challenges from 'mushrooming' after the review is instituted into additional

arguments employing other prior art or attacking other claims." 157 Cong. Rec. S1360-94 (daily ed. March 8, 2011). It is not disputed that these requirements were met in the petition presented in this case.

Section 312, like the rest of the AIA, provides no support for the PTO's practice of accepting consideration of some of the patent claims in the petition while ignoring others, when all challenged claims are fully documented and briefed in compliance with the statute. The PTO's selective practice is especially deleterious to the statutory purpose when the patent is in validity litigation in the district court.

35 U.S.C. § 314. Institution of Inter Partes Review

Section 314(a) establishes the threshold required for the Director to institute proceedings adjudicating validity:

> The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

35 U.S.C. § 314(a). The statute does not provide the PTO with discretion to pick and choose which of the challenged claims will be included in the post-grant review when at least one claim is found to have crossed the threshold of likely invalidity. The Director can still refuse to institute review entirely,

but the Director cannot choose to consider some of the challenged claims and to ignore others. The PTO departed from the statute in adopting regulations that authorize review of only some of the challenged claims and grounds, as in 37 C.F.R. 42.108(a):

> (a) When instituting inter partes review, the Board may authorize the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim.

I am not here concerned with the statutory authorization for complete denial of a petition to institute, for then the petitioner may proceed promptly with litigation. My concern is with the unauthorized partial institution after a PTO finding that at least one of the patent claims faces a likelihood of invalidity. This defeats the legislative purpose of creating a "substitute for court litigation" that is a "quick and cost effective alternative[]" where challengers must "front load their case," and the decision imposes estoppel to "eliminate the need to press any claims in other fora." *Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. On the Judiciary*, 110th Cong. 7 (2007) (written responses of Jon Dudas, Director, USPTO); H.R. Rep. No. 112-98, pt. 1 at 48 (2011); 157 Cong. Rec. S1360-94 (daily ed. March 8, 2011) (Sen. Grassley during Senate consideration, amendment, and passage of S. 23); 154 Cong. Rec. S9982-93 (daily ed. Sept. 25, 2008) (statement of Sen. Kyl on S. 3600 (Patent Reform)).

Authorization to refuse to institute a petition was included in response to the concerns of then Director Dudas about whether the PTO could handle the

increased work-load within the statutory time frame; this accommodation did not also authorize the PTO to choose to decide part of a petition and leave the other part undecided. Partial institution is not a reasonable statutory interpretation—it imposes additional delay, uncertainty, and cost; all contrary to the purposes of the AIA. It particularly affects § 315, discussed *post*, which imposes estoppel against the petitioner on all grounds that were "raised or reasonably could have [been] raised" in the IPR petition.

The AIA provides for two determinations by the Director when a petition for post-grant review has been filed: (1) whether the petitioner has presented grounds reasonably likely to invalidate at least one of the challenged claims, and (2) whether to institute post-grant review. Senator Kyl explained that the grant of discretion to the Director to refuse to institute review even when the invalidity threshold is met "reflects a legislative judgment that it is better that the Office turn away some petitions that otherwise satisfy the threshold for instituting an *inter partes* or post-grant review than it is to allow the Office to develop a backlog of instituted reviews that precludes the Office from timely completing proceedings." 157 Cong. Rec. S1377 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl).

35 U.S.C § 315. Estoppel

Section 315 establishes how these post-grant procedures interact with other aspects of patent litigation. Among the consequences of the PTO's curious and unforeseen practice, partial review does not estop unreviewed claims as to either validity or invalidity, thereby adding to the litigants' burden

rather than lightening it. The estoppel provisions were the subject of extensive legislative discussion.

Section 315(e) provides that when a petition for review is granted and the matter proceeds to trial and decision in the PTAB in accordance with § 318(a), estoppel arises with respect to "any ground that the petitioner raised or reasonably could have raised during that inter partes review." This estoppel applies in the PTO, in the district courts, and in the International Trade Commission.

35 U.S.C. § 315(e) Estoppel.—

(1) Proceedings before the office.–The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(2) Civil actions and other proceedings.–The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

The America Invents Act was designed—after a decade of hearings and revisions—to reduce the cost of patent litigation, to resolve major validity issues in an expert tribunal, and to put an end to repetitive challenges. The estoppel provision was a controversial aspect of the enactment.

An interim Senate Report states that contributors were concerned about the fairness of the "could have raised" estoppel provision, given the extremely limited discovery available to petitioners. *See* S. Rep. No. 111-18, at 17, to accompany S. 515 (Patent Reform Act of 2009) ("Many businesses also have described could-have-raised estoppel as a powerful brake on their use of inter partes reexamination. They find this standard vague and uncertain, and fear that if they challenge a patent in an inter partes reexamination, they will lose the ability to raise later-discovered prior art against the patent if they are subsequently sued for infringement.").

Congress initially considered a lesser estoppel. *See* S. Rep. No. 110-259, at 22, to accompany S. 1145 ("Moreover, once a petitioner has challenged the validity of a patent through a PGR, that party may not challenge validity in a court proceeding based on any ground it raised during the PGR"). But, by the time of enactment of the AIA in 2011, stronger estoppel provisions appear to have achieved consensus. *See* 157 Cong. Rec. S952 (Feb. 28, 2011) (statement of Sen. Grassley on final consideration of S. 23):

> In addition, the bill would improve the current inter partes administrative process for challenging the validity of a patent. It would establish an adversarial inter partes review,

> with a higher threshold for initiating a proceeding and procedural safeguards to prevent a challenger from using the process to harass patent owners. It also would include a strengthened estoppel standard to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge. The bill would significantly reduce the ability to use post-grant procedures for abusive serial challenges to patents. These new procedures would also provide faster, less costly, alternatives to civil litigation.

Director Dudas had urged that because the PTO procedures are intended to substitute for district court litigation, litigation-type estoppel should attach to PTAB rulings:

> We would favor providing for a second-window review to have a different estoppel effect than a first-window review . . . . A second-window review, however, will serve as a substitute for court litigation and, as such, should bind not only the patentee but also the challenger as a decision on the merits in litigation would.

Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. on the Judiciary, 110th Cong. 136–137 (2007) (statement of Jon Dudas, Director, USPTO).

Senator Grassley further summarized, at enactment, that the purpose of the estoppel is to "completely substitute" for the same issues in litigation.

> Ideally extending could-have-raised estoppel to privies will help ensure that if an inter partes review is instituted while litigation is pending, that review will completely substitute for at least the patents-and-printed-publications portion of the civil litigation.

157 Cong. Rec. S1360-94 (daily ed. March 8, 2011) (statement of Sen. Grassley). When PTO Director Kappos took office as the legislation neared finality, he stated at a closing hearing on the America Invents Act:

> If I can say that in my own words also, that I believe there are significant advantages for patentees who successfully go through the post-grant system—in this case inter partes review—because of those estoppel provisions. Those estoppel provisions mean that your patent is largely unchallengeable by the same party.

America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary, 112th Cong. 52–53 (2011) (statement of David Kappos, Director, USPTO).

The "complete substitution" for section 102 and 103 issues cannot occur unless all of the claims challenged in the petition are included when post-grant review is accepted. Challengers may choose between the IPR proceeding and district court litigation of the same issues, but Congress restricted the repetitive validity proceedings of the past. A witness testified that:

> With respect to your question on alternatives to litigation...38% of all inter partes reexaminations brought between 2001 and 2005

> were filed after patent litigation had already begun, showing that this proceeding, to a very significant part, is not used *instead of* litigation, but *on top of* litigation, and sometime even *after* litigation in attempts at undoing adverse district court judgments.

Patent Reform: The Future of American Innovation Before the Senate Comm. on the Judiciary, 110th Cong. 94 (written testimony for Alkermes plc) (emphasis original).

Senator Schumer stated at enactment of S. 23:

> Too many district courts have been content to allow litigation to grind on while a reexamination is being conducted, forcing the parties to fight in two fora at the same time. This is unacceptable, and would be contrary to the fundamental purpose of . . . provid[ing] a cost efficient alternative to litigation.

157 Cong. Rec. S1360-94 (March 8, 2011) (statement of Sen. Schumer).

These universally emphasized AIA purposes fall flat when the PTO chooses to review some but not all of the challenged claims in the petition, leaving the other claims presumably alive and well. The legislation does not contemplate such a procedure. The legislation provides only for a PTO proceeding that subjects "**any patent claim challenged by the petitioner** and any new claim added" during the proceeding to be fully and finally decided through the PTO proceeding and its subsequent appeal, bringing "more certainty in litigation." 157 Cong. Rec. S948 (Feb. 28, 2011) (statement of Sen. Leahy on Senate consideration of S. 23) (emphasis added).

This finality is achieved by the estoppel provisions as applied to the decision on every claim challenged by the petitioner as to every issue raised or that could have been raised. *America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 12 (2011) (statement of David Kappos, Director, USPTO) ("Those estoppel provisions mean that your patent is largely unchallengeable by the same party."). However, when review is declined as to some claims that may be of litigation interest, the partial institution practice cannot be a "complete[] substitute for . . . [a] portion of civil litigation." This contravenes a primary purpose of the AIA.

During oral argument of this appeal, the court questioned PTO counsel on the relationship between the conduct of reexamination proceedings, the conduct of inter partes review proceedings, and the legislative purpose of the AIA's post-grant procedures. Oral Argument at 25:28–37:20. In a letter, the PTO provided MPEP sections 2243 and 2246, stating that reexamination under past PTO practice authorized by Section 302 may be conducted on "fewer than all claims in the subject patent or in the reexamination request." The PTO stated that this supports the partial institution practice for AIA proceedings. PTO Letter, January 11, 2016, ECF No. 61. The PTO urged that *Chevron* deference should be applied.

However, the legislative history is clear that the AIA *inter partes* review proceedings were designed to correct inadequacies plaguing the former procedure. The former PTO reexamination differs from AIA review in that (1) reexamination under § 302 is conducted by an examiner on the written record, not by the PTAB with discovery, witnesses, and trial; (2)

§ 302 reexamination entitles amendment as of right, and examination of the amended claims is of right, contrary to the PTO's implementation of the AIA statute; (3) no estoppel attaches to § 302 reexamination, unlike the AIA rulings; and (4) § 302 reexamination requires "a substantial new question of patentability" and reexamination is mandatory when such a question is found, unlike the standard for "institution."

The new AIA system was designed to improve upon the § 302 reexamination procedure. *See* 157 Cong. Rec. S952 (Feb. 28, 2011) (statement of Sen. Grassley on Senate consideration of S.23) ("In addition, the bill would improve the current inter partes administrative process for challenging the validity of a patent."); 157 Cong. Rec. S5370-77 (Sept. 7, 2011) (statement of Sen. Whitehouse on Senate consideration of H.R. 1249) ("Administrative processes that should serve as an alternative to litigation [] have broken down, resulting in further delay, cost, and confusion.").

35 U.S.C § 316. Conduct of inter partes review

In promulgating regulations authorizing partial institution, the PTO invoked the authority of Section 6(c) of the AIA, requiring the PTO to "issue regulations to carry out chapter 31 of title 35, United States Code, as amended by subsection (a) of this section." *See* § 316(a) ("The Director shall prescribe regulations . . . (2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a); . . . (4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title"). 77 Fed. Reg. 7058.

This authority does not include authorization to depart from the statute. *See Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 213–14 (1976) ("The rulemaking power granted to an administrative agency charged with the administration of a federal statute is not the power to make law. Rather, it is the power to adopt regulations to carry into effect the will of Congress as expressed by the statute."); *see also* H.R. REP. No. 110-314, at 45 (2007) ("Where Congress has seen fit to provide specific limitations or conditions in statute, the USPTO may not surpass or take away these limitations or conditions by promulgated rule.").

The PTO improperly adopted a system of partial institution and partial final written decision, contravening the statute and the intent of Congress. The PTO has exceeded its statutory authority. It befalls this court to "add force and life to the cure and remedy, according to the true intent of the makers of the act." *Heydon's Case*, 76 Eng. Rep. 637, 638 (1584).

35 U.S.C § 318. Decision of the PTAB

Section 318 requires the Board to address all of the challenged claims and to issue a final written decision. The statute provides:

> § 318(a). If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

The statute is clear: the Board's final written decision must include "the patentability of any patent

claim challenged by the petitioner and any new claim added under section 316(d)." *Id.* And when a petition is instituted, all of the challenged claims must be included in the final written decision. *Id.*

The totality of provisions and history of the America Invents Act demonstrates that the PTO has erroneously adopted a system of partial review and partial decision that was not contemplated, not intended, not discussed, and indeed not suspected by Congress and the communities concerned with patent legislation.

CONCLUSION

The panel majority reinforces the erroneous PTO regulations and practices that contravene the statute. I respectfully dissent from Part III of the court's opinion.

APPENDIX B

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Paper 38
Entered: August 6, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAS INSTITUTE, INC.,
Petitioner,

v.

COMPLEMENTSOFT, LLC,
Patent Owner.

Case IPR2013-00226
Patent 7,110,936 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JENNIFER S. BISK, *Administrative Patent Judges.*

BISK, *Administrative Patent Judge.*

FINAL WRITTEN DECISION

35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

Petitioner, SAS Institute, Inc., filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1-16 ("the challenged claims") of U.S. Patent 7,110,936 B2 (Exhibit 1001, "the '936 patent"). 35 U.S.C. §§ 311-319. Patent Owner, ComplementSoft, LLC, filed a Preliminary Response. Paper 8. On August 12, 2013, we instituted trial (Paper 9, "Dec."), concluding that Petitioner had shown a reasonable likelihood of showing that claims 1 and 3-10 were unpatentable based on the following grounds:

References[1]	**Claims Challenged**
Coad, Oracle Primer, and Oracle8 Primer	1
Antis and Coad	1, 3, 5, 6, 8, and 10
Antis, Coad, and Burkwald	4
Antis, Coad, and Eick	7
Antis, Coad, and Building Applications	9

[1] U.S. Patent No. 5,572,650 (Ex. 1005) ("Antis"); U.S. Patent No. 6,851,107 (Ex. 1006) ("Coad"); U.S. Patent No. 6,356,285 (Ex. 1007) ("Burkwald"); U.S. Patent No. 5,937,064 (Ex. 1008) ("Eick"); Microsoft Corporation, BUILDING APPLICATIONS WITH MICROSOFT ACCESS 97 (1996) (Ex. 1011) ("Building Applications"); Rajshekhar Sunderraman, ORACLE PROGRAMMING: A PRIMER (1999) (Ex. 1012) ("Oracle Primer"); and Rajshekhar Sunderraman, ORACLE8 PROGRAMMING: A PRIMER (2000) (Ex. 1013) ("Oracle8 Primer").

We have jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

Petitioner has shown, by a preponderance of evidence, that claims 1, 3, and 5-10 are unpatentable. Petitioner has not met its burden to show that claim 4 is unpatentable.

Patent Owner's motion to amend claims is *denied*.

B. Related Proceedings

Patent Owner asserted the '936 patent against Petitioner in *ComplementSoft, LLC v. SAS Institute, Inc.*, No. 1:12-cv-07372 (N.D. Ill. Sept. 14, 2012). *See* Pet. 58; Paper 6 at 2. The related case is currently stayed pending this *inter partes* review. Transcript of Proceedings, *ComplementSoft*, No. 1:12-cv-07372, ECF No. 44 (granting stay), 54 (denying motion to lift stay).

C. The '936 Patent

The '936 patent describes a language independent software development tool having a graphical user interface, also referred to as an Integrated Development Environment or IDE. Ex. 1001, 1:15-19. In particular, the patent describes an IDE for exchanging, editing, debugging, visualizing, and developing software code for "data manipulation centric languages." *Id.* at 1:64-2:3.

The Summary of the Invention describes the IDE as including, among other features, a visualizer that generates a graphical representation of the program flow, data flow, or logic of the code. *Id.* at 2:34-49. In other words, the visualizer allows for displaying code in ways other than a typical text editor. A detailed description of a preferred embodiment uses a series of

drawings, and corresponding text, to describe an exemplary IDE with a visualizer that can display source code using several different graphical formats. *Id.* at 3:24-26. For instance, Figure 9, reproduced below, depicts "a program flow for a selected file, along with arrows that indicate the flow of data within the program flow." *Id.* at 3:49-51.

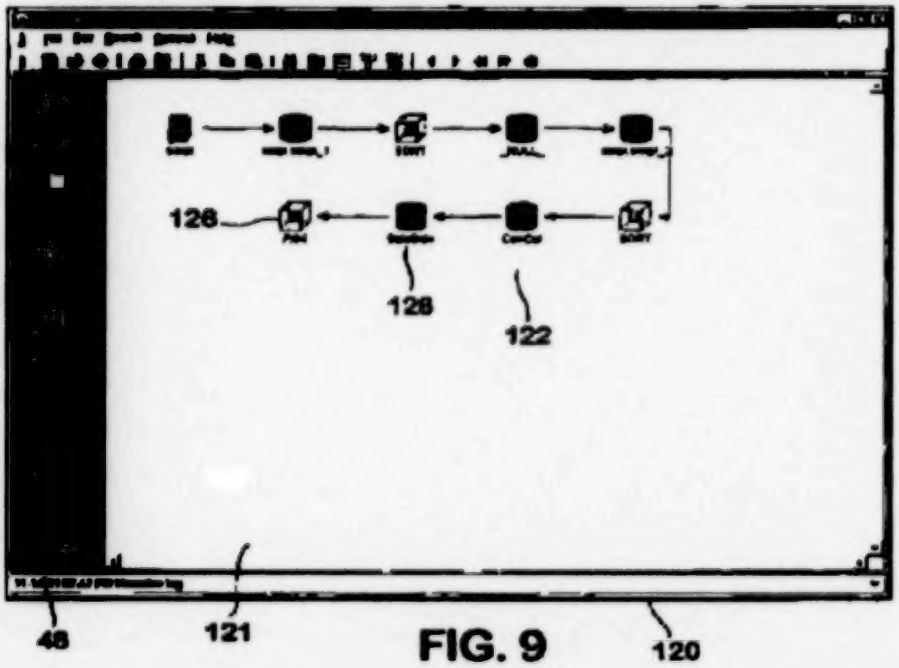

FIG. 9

Figure 9, above, shows visualizer 120 displaying source code. *Id.* Each program and data block of a code section is represented by an icon, program flow icon 126. *Id.* at 8:8-14. Program flow icons 126 are displayed in the order that they occur in the source code (*id.* at 15:56-59) and are connected by arrows that illustrate the flow of data (*id.* at 8:8-14).

Visualizer 120 also is shown in Figure 17, reproduced below, showing "a data flow" for the selected program. *Id.* at 4:12-13.

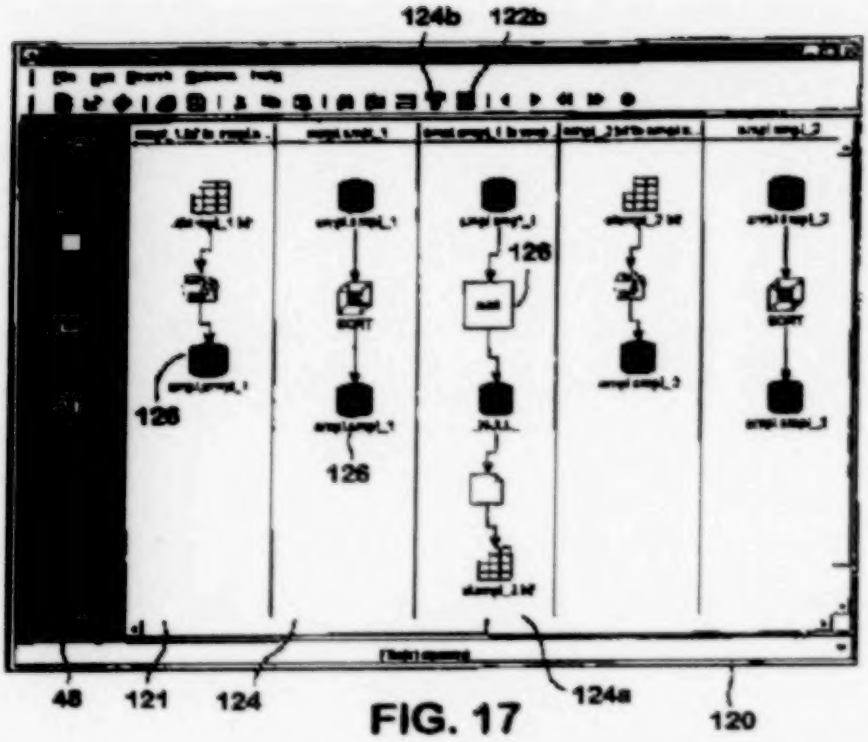

FIG. 17

Figure 17, above, shows visualizer 120 displaying individual processes and data blocks, represented by program flow icons 126, in separate columns. *Id.* at 16:6-12. The arrows that connect program flow icons 126 indicate the direction of the data flow. *Id.*

D. Illustrative Claim

Claim 1, reproduced below, is the '936 patent's only independent claim:

> 1. An integrated development environment, comprising:
>
> a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;
>
> an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and

a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser,

wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.

II. ANALYSIS

A. Claim Construction

For purposes of the Decision to Institute we expressly construed the terms "data manipulation language" and "graphical representation of flows." Dec. 6-9. We construed (1) "data manipulation language" as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database," and (2) "graphical representation of flows" as "a diagram that depicts a map of the progression (or path) through the source code." *Id.*

In the post-institution briefs, the parties directly disagree regarding only the construction of the term "data manipulation language." Paper 16 ("PO Resp.") 10-11; Paper 24 ("Reply") 1-2. In analyzing the issues in this case, however, we have determined that many of the arguments purportedly directed to the proposed obviousness grounds are more accurately arguments regarding claim construction. Thus, to properly resolve the issues presented in this proceeding, we construe several terms not addressed explicitly by either party, including "graphical representation of flows," "program flows," and "data flows." We construe all terms, whether or not expressly described below, using the broadest reasonable construction in light of the '936 patent specification. 37 C.F.R. § 42.100(b).

1. Data Manipulation Language

Much of this proceeding turns on the interpretation of the term "data manipulation language," recited by every challenged claim. In the Decision to Institute, we interpreted this term as "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." Dec. 6-8. This interpretation is consistent with dictionary definitions from the time period of the invention. *See* MICROSOFT COMPUTER DICTIONARY at 125 (4th ed. 1999) ("a language that is used to insert data in, update, and query a database"); Ex. 1040, 272 (THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS (7th ed. 2000)) ("A language used to retrieve, insert, delete, or modify the data in a database.").

a. "retrieve"

In its response brief, Patent Owner contends that the definition we adopted in the Decision to Institute is too broad. PO Resp. 10-11. Specifically, Patent Owner argues that a programming language that includes *only* the functionality for retrieving data would not have been considered a data manipulation language by a person of ordinary skill in the art. *Id.* Patent Owner's declarant, Ivan Zatkovich, testifies that an SQL [Structured Query Language] SELECT statement—which retrieves data from a database—"does not alter the data in any way and thus does not, by itself, perform any manipulation of data." Ex. 2001 ¶ 19. Accordingly, Patent Owner proposes that our interpretation of the term "data manipulation language" be altered to either remove the word "retrieve" or "qualify the use of the term retrieve by stating that the retrieval must be followed by some *manipulation* procedure." PO Resp. 11. Petitioner disagrees, asserting that Patent Owner's proposed change would result in too narrow an interpretation because retrieval of data *does* constitute data manipulation. Reply 1-2.

We decline to make Patent Owner's proposed change. First, this change does not affect the substantive analysis in this case. In other words, our decision on patentability is the same whether or not we adopt Petitioner's proposed modification.

Second, we are not persuaded by Patent Owner's arguments that we should depart from the dictionary definitions, proffered by Petitioner's declarant, Dr. Nick Roussopoulos (Ex. 1015 ¶ 48), and upon which we based our preliminary construction. For instance, during the oral hearing, Patent Owner conceded that

retrieving data from a database is a type of manipulation.

> JUDGE TURNER: But if I'm obtaining a smaller set [of data items from a database], isn't that manipulating or is it not? I understand I'm giving you a hypothetical and putting you on a spot.
>
> MR. HANFT: What I'm having trouble with is in that hypothetical you're talking about retrieving data from a dataset, but then you're trying to say, well, is that within the definition of a data manipulation language? It's just kind of slightly apples and oranges because the data manipulation language has to have certain characteristics and be capable of certain things.
>
> *Taking a dataset and reducing it down to a smaller set according to some characteristics is some type of manipulation*, but a data manipulation language has to be able to do more than just retrieve. It's got to do more than that.

Paper 36 ("Tr.") 38:7-18 (emphasis added). Fen Hiew, one of the named inventors of the '936 patent, agreed with this understanding. Ex. 1045, 47:15-18 (Q: "Would selection of data be a type of manipulation that's performed by a data manipulation system?" A: "Yes").

We are not persuaded otherwise by Mr. Zatkovich's testimony to the contrary. *See* Ex. 2001 ¶ 19. Mr. Zatkovich does not explain why retrieving data would not be considered manipulation of that data. Nor does he point to any objective evidence to support this conclusion. And Patent Owner does not point to persuasive language in the specification or other

evidence that supports an interpretation of "data manipulation language" with the word "retrieve" removed or qualified as proposed.

Thus, we decline to alter our preliminary construction of data manipulation language by removing or adding a qualification to the word "retrieve."

b. "directly"

Although not couched as claim construction, Patent Owner argues that a data manipulation language must *directly* access data in a database. PO Resp. 33, 38-39. Patent Owner argues that because of this requirement, an object-oriented programming language cannot be a data manipulation language, even if it includes extensions, such as JDBC [Java Database Connectivity] or embedded SQL, for accessing a database. *Id.* In explaining this assertion, Mr. Zatkovich testifies that object-oriented programming languages facilitate the creation of programs that are a collection of interacting objects, as opposed to conventional programming languages, in which a program is a list of tasks. Ex. 2001 ¶ 22. As part of this paradigm, according to Mr. Zatkovich, the object-oriented approach typically places data in an object, where the data are not directly accessible by the rest of the program, but instead are accessed solely through methods bundled with the object. *Id.* ¶ 23. Mr. Zatkovich concludes that "[o]ne skilled in the art would not consider C++ and Java [which are object-oriented programming languages] to be data manipulation languages since they do not directly interact or directly perform data manipulation within databases." *Id.* ¶ 24.

Patent Owner adds that simply adding database functionality in the form of JDBC or embedded SQL to an object-oriented language does not convert the language into a data manipulation language. PO Resp. 38-39. Mr. Zatkovich testifies that when SQL is embedded in Java, the Java program simply passes the SQL statement to the database system—the embedded SQL statement is "processed merely as a text string to be passed to the DataBase Management System." Ex. 2001 ¶ 47. According to Patent Owner, this shows that it is not actually Java or C++ code accessing data in a database, but instead the access is "being performed at and by the database itself." PO Resp. 39. Thus, Patent Owner concludes that Java and C++ are not data manipulation languages, even when augmented by JDBC or embedded SQL. *Id.*

Petitioner argues that a data manipulation language is a language that allows a program to simply access data in a database, without the requirement that the access be *direct*. Reply 9. According to Petitioner, Java and C++ access a database using embedded SQL and JDBC statements. *Id.* Petitioner relies on statements in the Oracle8 Primer to support this assertion. *Id.* at 9-10 (quoting Ex. 1013, 225 ("JDBC is an Application Programming Interface (API) that enables database access in Java."), 93, 96, 226). In addition, Dr. Roussopoulos testifies that "[e]mbedding SQL allows each of [the Java and C++] programming languages to access data in a database." Ex. 1015 ¶ 114 (citing Ex. 1013, 93, 95, 103, 108, 118, 277, 280, 281, 294, and 301); *see also* Ex. 1015 ¶¶ 49-51. Dr. Roussopoulos also states that "Oracle8 Primer discloses that the object-

oriented nature of Java is no bar to having data manipulation language operations." *Id.* ¶ 52 (quoting Ex. 1013, 281 (showing that the "select" statement is translated into pure Java code), 301 (showing the same for inserting data in a database), 294 (showing the same for creating database tables and rows)); *see also* Ex. 1015 ¶ 53 (showing the same for embedded C++).

We are persuaded by the testimony of Dr. Roussopoulos that a data manipulation language does not require *direct* access to data in a database. To the extent that Patent Owner argues that Java and C++ never actually retrieve or manipulate data in a database because the embedded functionality does not *directly* access the database, we credit Petitioner's evidence, particularly Exhibit 1013, which supports Dr. Roussopoulos's conclusion that embedded SQL accesses and manipulates data in a database. All of Patent Owner's evidence to the contrary hinges on the testimony of Mr. Zatkovich, which we do not find persuasive. Mr. Zatkovich's conclusion that access to a database from a data manipulation language must be direct is unsupported. Mr. Zatkovich simply asserts this to be the case, without providing credible support. *See* Ex. 2001 ¶ 47.

Patent Owner does not point to persuasive language in the specification or other evidence that supports an interpretation of data manipulation language restricted to *direct* access to a database. In fact, the '936 patent discusses, in several places, SQL and Oracle® RDBMS as examples of languages to which the invention is targeted. Ex. 1001 1:20-25; 1:64-2:3; 8:22-26; 9:47-53; 10:5-7; 16:34-49; 17:17-19.

And the '936 patent does not specify that these languages would be excluded if the database access functionality is indirect. Dr. Roussopoulos agrees, stating that the '936 patent's reference to these languages is consistent with embedding SQL in Java or C++. Ex. 1015 ¶ 54.

Thus, we decline to alter the interpretation of "data manipulation language" by adding a qualification that access to the database be direct.

c. Conclusion

For these reasons, we adopt the interpretation of "data manipulation language" used in the Decision to Institute—"a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." We do not adopt any of the modifications to this interpretation urged by Patent Owner.

2. Graphical Representation of Flows

The term "graphical representation of flows" is recited by every challenged claim. In the Decision to Institute, we interpreted this term as "a diagram that depicts a map of the progression (or path) through the source code." Dec. 8-9. Patent Owner does not explicitly challenge this interpretation, but makes several arguments that amount to a narrowing of the interpretation of the term. We address these arguments here.

a. "data flows" and "program flows"

In the Decision to Institute, we explained that the '936 patent explicitly discusses two types of flow diagrams—"program flow diagrams" and "data flow diagrams." Dec. 8-9 (citing Ex. 1001, 2:38-42). The '936 patent describes a "program flow diagram"

as being "comprised of program block icons and arrows to depict the code's program flow" and a "[d]ata flow diagram" as "comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program." Ex. 1001, 2:38-42. We were not persuaded, however, that the claim term "graphical representation of flows" is restricted to these two types of flow diagrams. Dec. 8-9.

Patent Owner does not explicitly argue otherwise. Nevertheless, in its analysis, Patent Owner often limits the term to either program or data flow diagrams. These arguments are appropriate only for dependent claims 3 ("wherein the graphical representations of flows depict program flows") and 4 ("wherein the graphical representations of data flows are expandable and collapsible"). Patent Owner goes further and applies the narrower interpretation to all the claims. For example, Patent Owner argues that Coad does not show "graphical representations of flows" by asserting that the "communications shown in Fig. 14 are not directly related to program or data flow" and "none of the remaining diagrams of Coad show program or data flow." PO Resp. 31-32.

Patent Owner, however, presents no persuasive explanation or evidence to support such a narrow interpretation of the claim term "graphical representations of flows." As we pointed out in the Decision to Institute, Patent Owner has not directed us to language in the '936 patent that limits the term to only these two examples. Nothing in Patent Owner's response brief persuades us otherwise.

b. "within the retrieved source code"

Patent Owner argues that the term "graphical representations of flows" cannot properly be interpreted without taking into consideration the phrase that follows it in the claims—"within the retrieved source code." PO Resp. 32-33. According to Patent Owner, because the source code is further defined in the claims to be a "data manipulation language," the "claims require that the flows show source code steps actually performing data manipulation procedures." *Id.* at 35. Patent Owner explains that the "intent and purpose of the invention is to permit the graphical representation of the flow within languages that manipulate data." *Id.* at 36. Patent Owner also points to Figure 19 as showing that the graphical representations depict the program flow within the "*actual source code that is manipulating the data.*" *Id.*

We agree with Patent Owner that the claim language clearly requires the graphical representations of flows to show flows within source code created with a data manipulation language. However, we are not persuaded that this requires the flows to show source code steps that are actually performing data manipulation. As described above, we have interpreted data manipulation language to be a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database. Although this interpretation requires that a data manipulation language allow a program to be written that manipulates data, the interpretation does not *limit* such a program to source code that manipulates data. In other words, source code written using a data manipulation

language performs many types of actions, including, but not limited to, manipulating data.

For example, Figure 20 of the '936 patent shows a portion of the source code being displayed in the graphical representation. One of the function calls listed in the source code is "PRINT," which is represented in the graphical representation as an icon. It is unclear, however, whether a print function is "actual manipulation of data." *See* Tr. 65:19-23 (Q: "In the patent in figure 20(a) there is some code, and it has print data. Is that a data manipulation procedure? I don't know if printing is manipulating." A: "You're not going to like my answer, which is I'm not an expert in this field, so I can't answer that."). And Patent Owner has not directed us to evidence that sheds light on this question.

Moreover, as discussed above, Patent Owner asserts that retrieving data, as in an SQL SELECT statement, is not a manipulation of data. PO Resp. 10-11 (citing Ex. 2001 ¶ 19). Nevertheless, Patent Owner concedes that a program written with a data manipulation language may include functions used for retrieving data. *See, e.g.*, PO Resp. 11 ("The Board's interpretation should be modified to either remove the term 'retrieve' or to qualify the use of the term retrieve by stating that the retrieval must be followed by some *manipulation* procedure."). Thus, it is undisputed that a program written using a data manipulation language may contain portions of code that perform actions independent from the manipulation of data. And Patent Owner does not point to persuasive language in the '936 patent or other evidence supporting an interpretation that excludes those portions of the source code from the

graphical representation. In other words, the claims require that the "received source code" is "programmed using one of a plurality of types of data manipulation languages," but nothing in the claims requires that the "retrieved source code" contain functionality that actually manipulates data.

Figure 19 does not persuade us otherwise. Patent Owner has not pointed to any indication in the '936 patent that this figure is meant to limit the subject matter of the claims. To the contrary, the "Brief Description of Drawings" clearly identifies all the figures as depicting a preferred embodiment of the invention. Ex. 1001, 3:24-26 ("For a better understanding of the invention, reference may be had to a preferred embodiment shown in the following drawings."). And the "Detailed Description" concludes by clarifying that the specific embodiments are not limiting. *Id.* at 17:62-66 ("While specific embodiments of the present invention have been described in detail, it will be appreciated by those skilled in the art that various modifications and alternatives to those details could be developed in light of the overall teachings of the disclosure."); 18:13-17 ("Accordingly, the particular arrangement disclosed is meant to be illustrative only and not limiting as to the scope of the invention which is to be given the full breadth of the appended claims and any equivalents thereof.").

Thus, we decline to alter the interpretation of "graphical representations of flows" by adding a requirement that the flows show source code steps that are actually performing data manipulation.

c. Actual Pathways

Petitioner states that Patent Owner improperly suggests that graphical representations of flows are limited to the *actual* path through source code as opposed to including *all possible* pathways through the code. Reply 8-9. In particular, Petitioner points to Patent Owner's description of Coad, "[t]he concept underlying Coad is limited to depicting all potential (as opposed to actual) scenarios within an object-oriented program." Reply 8 (citing PO Resp. 13). Patent Owner does not point to persuasive explanation or evidence supporting such a limitation. To the extent that Patent Owner is making this argument, we are not persuaded that the term should be so limited.

d. Conclusion

For these reasons, we adopt the interpretation of "graphical representations of flows" used for the Decision to Institute—"a diagram that depicts a map of the progression (or path) through the source code." We do not adopt any of the modifications to this interpretation urged by Patent Owner.

3. Program Flows

The term "program flows" is recited in dependent claim 3. In the Decision to Institute, we did not explicitly interpret this term as part of the claim construction section. *See* Dec. 5-10. In the analysis portion of our decision, however, we stated that "Figure 14 [of Coad] depicts the source code program's path of control from one step to another through the program—a program flow diagram." Dec. 14. Neither party directly challenges this statement.

Although the '936 patent does not explicitly define "program flows," it does define the term "program flow diagrams" as "comprised of program block icons and arrows to depict the code's program flow." Ex. 1001, 2:38-40. The specification then proceeds to use the terms "program flows" and "program flow diagrams" interchangeably. *See, e.g., id.* at 3:49-51 ("FIG. 9 is an exemplary screen shot depicting a program flow for a selected file, along with arrows that indicate the flow of data within the program flow."); 16:3-5 ("By assigning meanings and attributes to tokens 144, the document view engine 200 allows the visualizer to create program flows 122 and data flows 124.").

Thus, we begin with the definition for "program flow diagrams" for our interpretation. Because it is not constructive for the definition of "program flows" to include the term "program flow," we adopt the following slightly modified version—"a graphical representation comprised of program block icons and arrows to depict the progression of control through source code."

4. Data Flows

The term "data flows" is recited by dependent claim 4. In the Decision to Institute, we did not explicitly interpret this term as part of the claim construction section. *See* Dec. 5-10. In the analysis portion of our decision, when discussing the data flow limitation, we stated that "[w]e are not persuaded that [the code view of Antis] is equivalent to a depiction of a map of the path of data through the executing source code." Dec. 19. Petitioner argues that the word "executing" in that statement is improper. Reply 4.

Although the '936 patent does not explicitly define "data flows," it does define the term "[d]ata flow diagrams" as "comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program." Ex. 1001, 2:40-42. The specification then proceeds to use the terms "data flows" and "data flow diagrams" interchangeably. *See, e.g., id.* at 4:12-13 ("FIG. 17 is an exemplary screen shot depicting a data flow for a selected file."); 16:3-5 ("By assigning meanings and attributes to tokens 144, the document view engine 200 allows the visualizer to create program flows 122 and data flows 124.").

Thus, we begin with the definition for "data flows diagrams," for our interpretation. Because it is not constructive to interpret the term "data flows" by using the phrase "flow of data," we adopt the following slightly modified version—"a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code."

B. Overview of Coad

Coad discloses a software development tool that allows a developer simultaneously to view and modify textual and graphical displays of source code regardless of the programming language in which the code is written. Ex. 1006, Abstract, 4:38-41. In the Background of the Invention, Coad describes conventional software development tools that allow the user to view Unified Modeling Language (UML)—a graphical representation or model using object-oriented design—and source code at the same time. *Id.* at 1:47–2:22.

C. Overview of the Oracle Primers

The Oracle Primers are books describing the Oracle database system. The Oracle8 Primer includes a chapter titled "Embedded SQL," which refers to adding embedded SQL to C++, thus allowing writing application programs in C++ that "interact (read and write) with the database." Ex. 1013, 93. Another chapter, titled "Oracle JDBC" describes JDBC, "an Application Programming Interface (API) that enables database access in Java" and "consists of a set of classes and interfaces written in Java that allow the programmer to send SQL statements to a database server for execution and, in the case of an SQL query, to retrieve query results." Ex. 1013, 225.

D. Alleged Obviousness over Coad and the Oracle Primers

Petitioner asserts that claim 1 would have been obvious over Coad combined with Oracle Primer and Oracle8 Primer. Petitioner relies on Coad for every limitation except that Petitioner relies on the Oracle Primers for describing the use of SQL within Java and C++ and thus disclosing the data manipulation language limitation. Pet. 31-32 (citing Ex. 1015 ¶¶ 111-115). Petitioner points to Figures 11-17 of Coad as depicting aspects of the view for displaying graphical representations of flows in source code. Pet. 29-30.

In the Decision to Institute, we determined that Petitioner had shown a reasonable likelihood of prevailing on this proposed ground of unpatentability. Dec. 15. In particular, we determined that Petitioner had a reasonable likelihood of prevailing on its assertions that the combination of Coad and the

Oracle Primers disclosed every limitation of claim 1. *Id.* at 12-14. We also found reasonable Petitioner's asserted rationale that a person of ordinary skill would have combined the teachings of Coad and the Oracle Primers in order to enhance the utility of the programming environment to include data manipulation. *Id.* at 14-15 (citing Pet. 25); *see* Ex. 1015 ¶ 115.

In its response brief, Patent Owner argues that the combination of Coad and the Oracle Primers fails to disclose the limitations "graphical representations of flows within the retrieved source code" where the source code is written in a "data manipulation language." PO Resp. 34-42. Patent Owner does not address any other limitations of claim 1 or the rationale to combine the references. *Id.*

1. Data Manipulation Language

Patent Owner argues that Coad combined with the Oracle Primers does not describe a data manipulation language because C++ and Java are object-oriented languages. PO Resp. 13, 36-39. According to Patent Owner, combining these languages with embedded SQL or JDBC, as disclosed by the Oracle Primers, does not solve the problem because the database access is not direct. *Id.*

As described above, our interpretation of the term "data manipulation language"—a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database—is broad enough to encompass object-oriented languages that do not directly access data in a database. We agree with Petitioner that when used with an embedded SQL or JDBC API, Java and C++

can be used to access data in a database and therefore qualify as data manipulation languages as we have construed that term. *See, e.g.*, Ex. 1015 ¶¶ 49-50 ("Java, C, C++, and other programming languages had functions and structures through the use of/embedding of SQL statements that allowed the programming language to access data, such as to retrieve, insert, delete, or modify data in a database.").

2. Graphical Representations of Flows

Patent Owner also argues that the combination of Coad and the Oracle Primers does not disclose the limitation "graphical representations of flows." PO Resp. 40-42. In particular, Patent Owner asserts that "[i]mplementing JDBC or embedded SQL within the environment of Coad would produce, at best, a graphical depiction of objects that show undefined external function calls, and would fail to show the program or data flow within the string quotes being passed to the database." PO Resp. 40.

We are not persuaded by this argument. First, this argument is based on an interpretation of the term "graphical representations of flows" that we rejected above. As explained, the interpretation we adopt is a diagram that depicts a map of the progression (or path) through the source code. This interpretation is broad enough to include, but is not limited to, program and data flows. We also reject Patent Owner's assertion that the graphical representation must show flow within source code steps that are actually performing data manipulation. Our interpretation of the term includes, but does not require, that the flows are shown within source code that is actually performing data manipulation.

Petitioner relies on Figures 11-17 (depicting UML diagrams) of Coad as disclosing graphical representations of flows. Pet. 28-30. We agree with Petitioner that at least Figures 14 and 17 of Coad disclose graphical representations of flows as we have construed that term. *See, e.g.*, Ex. 1015 ¶¶ 97-98; *see also* Ex. 1043, 88-89 (describing UML diagrams as showing flows).

Patent Owner concedes that Figure 14 shows communications between objects, which "would at best only show program flow in a purely object[-]oriented language—between objects." PO Resp. 32 (citing Ex. 2001 ¶ 36). Nonetheless, Patent Owner asserts that because object messages "cannot sensibly be asserted to constitute program or data flow," Figure 14 does not show flow through source code. *Id.* at 31-32. Because our interpretation of the term is broad enough to encompass flows that are not program or data flows, we conclude that Figure 14 discloses graphical representations of flows.

Similarly, Mr. Zatkovich agrees that Figure 17 shows a type of flow— "Figure 17 can depict a type of flow [ ], within an object, but only within state-based objects. So it's a very specialized type of flow in a very limited circumstance." Ex. 1044, 104:12-17. Because our interpretation of the term is broad enough to encompass flows that are not program or data flows, we conclude that Figure 17 discloses graphical representations of flows as well.

3. Conclusion

We conclude that a preponderance of the evidence demonstrates that claim 1 is unpatentable based on the combination of Coad and the Oracle Primers.

E. Overview of Antis

Antis relates to visually displaying structural characteristics of a large database in various graphical views for development purposes. Ex. 1005, Abstract. In particular, Antis describes a tool to display the characteristics of a database without semantic information such that explicit and implicit data structures can readily be observed to facilitate use, development, and maintenance of large databases. *Id.* 2:25-29.

F. Alleged Obviousness over Antis and Coad

As summarized in the table above, Petitioner asserts that claims 1 and 3-10 would have been obvious over Antis combined with Coad (claims 1, 3, 5, 6, 8, and 10) or Antis combined with Coad and one other reference (claims 4, 7, and 9). Pet. 41-52. In the Decision to Institute, we determined that Petitioner had shown a reasonable likelihood of prevailing on these proposed grounds of unpatentability. Dec. 18-19. In particular, we determined that Petitioner had a reasonable likelihood of prevailing on its assertions that the combination of asserted references discloses every limitation of the challenged claims. *Id.* We also found reasonable Petitioner's asserted rationale that a person of ordinary skill would have combined the teachings of the references in order to allow for easier source code debugging and a more accurate code view display. *Id.* at 18 (citing Pet 18); *see also* Ex. 1015 ¶¶ 164-67.

1. Independent Claim 1

In its response brief, Patent Owner argues that the combination of Antis and Coad fails to disclose the limitations (recited in every challenged claim)

"graphical representations of flows within the retrieved source code" where the source code is written in a "data manipulation language." PO Resp. 42-45. Patent Owner does not address any other limitations of claim 1 or Petitioner's asserted rationale to combine Antis and Coad. *Id.*

a. Data Manipulation Language

Patent Owner argues that Antis combined with Coad does not describe a data manipulation language because Antis instead describes the use of a data definition language. PO Resp. 42-45. A data definition language is designed specifically for describing the relationships between data in a database, such as defining data structures and schema. *Id.*

We agree with Patent Owner that a data definition language is different than a data manipulation language. *See* EX. 1015 ¶ 48 (quoting The Authoritative Dictionary of IEEE Standards Terms at 100 (7th 2000) (defining data manipulation language followed by ("*Contrast*: data definition language"))). However, we do not agree that Antis's disclosure is limited to data definition languages.

Antis also discusses the use of RDBMS. *See, e.g.*, Ex. 1005, 3:30-35, 5:4-8; Ex. 1044, 138:19-139:12. The '936 patent expressly mentions RDBMS several times, stating, for example, that "a need exists for a system and method for exchanging, editing, debugging, visualizing[,] and developing SAS®, SPSS®, SQL®, DB2 UDB®, Oracle RDBMS®[,] and other relational database management software." Ex. 1001, 1:66-2:3; *see also* 1:20-25; 8:26-30. Thus, the '936 patent contemplates the use of a database

management system with the invention. *Id.* Mr. Hiew testifies that a data management system typically includes a data manipulation language to retrieve and manipulate the data from the storage management by the system. Ex. 1045, 47:19-48:12. Consistent with this definition, Antis shows some source code that retrieves data from a database—a data manipulation language. Ex. 1005, Fig. 12 ("/HOME/PYRCE/DATA/*EXTRACT*/V6.0/") (emphasis added); Ex. 2002, 101:4-102:19 (Dr. Roussopoulos testifying that although he is not familiar with the language the source code in Figure 12 is in, it shows a database query).

We are persuaded that Antis discloses a data manipulation language as we have construed that term.

b. Graphical Representations of Flows

Patent Owner also argues that the combination of Coad and Antis does not disclose the limitation "graphical representations of flows." PO Resp. 42-45. Patent Owner argues that Antis does not disclose graphical representations of flows because it only shows relations within a database, not any type of flow. *Id.* at 43-44. We are not persuaded by this argument. As explained above, we have found that Coad discloses graphical representations of flows, so it is irrelevant that Antis does not also show this particular limitation, given that the asserted ground is based on the combination of the two references.

c. Conclusion

We conclude that a preponderance of the evidence demonstrates that independent claim 1 is

unpatentable based on the combination of Antis and Coad.

2. Claims 5, 6, 8, and 10

Claims 5, 6, and 8 depend directly from independent claim 1. Claim 10 depends from claim 8. Patent Owner does not separately argue the limitations added by these dependent claims. After considering all the papers filed in this proceeding, we are persuaded that dependent claims 5, 6, 8, and 10 are unpatentable based on the combination of Antis and Coad for the reasons argued by Petitioner.

3. Claim 3

Claim 3 depends directly from claim 1 and adds the limitation "wherein the graphical representations of flows depict program flows." Because claim 3 specifically limits the graphical representations to program flows, we revisit some of Patent Owner's arguments that we did not find persuasive when applied to the broader term. In other words, although we determined above that Coad discloses graphical representations of flows, we must now determine whether Coad shows *program flows* as we construe that term—a graphical representation comprised of program block icons and arrows to depict the progression of control through source code.

In our Decision to Institute, we stated that "Figure 14 [of Coad] depicts the source code program's path of control from one step to another through the program—a program flow diagram." Dec. 14. We based this determination on Coad's description that Figure 14, showing a sequence diagram, depicts "the time ordering of messages along the vertical axis" representing "an interaction . . . to effect a desired

operation or result." *Id.* (citing Ex. 1006, 17:1-15). Dr. Roussopoulos's testimony is consistent with this determination. Ex. 1015 ¶¶ 100, 101. In particular, Dr. Roussopoulos states that "Figure 14 depicts a program flow by showing a *particular sequence of operations*, where one operation follows another in time." *Id.* ¶ 100. He points to objective evidence supporting his conclusion that a person of ordinary skill would understand sequence diagrams to include program flows. *Id.* ¶ 101 (quoting Mehmet Aksit, *et. al.*, *Use Cases in Object-Oriented Software Development*, AMIDST, Feb. 5, 1999, at 10-11); *see also id.* ¶ 102.

Patent Owner argues that Figure 14 does not disclose program flows because "the sequence diagrams show the *communications* that occur between objects, not the flow of program control between objects, nor the flow of data being manipulated by the objects." PO Resp. 31. Mr. Zatkovich testifies similarly, stating that "sequence diagrams show the communications between active objects" and there is "nothing in this type of model representation that is intended to show how data flows." Ex. 2001 ¶¶ 28-29. Thus, according to Mr. Zatkovich, "one skilled in the art reviewing Fig. 14 and the accompanying text would not conclude that this discloses program or data flow in Java or C++, nor program or data flow in a data manipulation language." *Id.* ¶ 30.

We are persuaded that a person of ordinary skill in the art would conclude that Figure 14 discloses program flows as we have construed that term. Patent Owner does not persuasively address the language of Coad itself—that sequence diagrams

"emphasize the time ordering of messages along the vertical access" (Ex. 1006, 17:11-15), and thus depict the progression of control through the source code of an object. Moreover, Patent Owner does not persuasively address the supporting evidence stating that "[t]he flow of control in use cases can be displayed in interaction diagrams, especially the sequence diagrams." Ex. 1015 ¶ 101 (emphasis omitted).

As between the conflicting evidence on this point, we credit Petitioner's evidence, particularly Dr. Roussopoulos's testimony, which is supported by objective evidence. All of Patent Owner's evidence, to the contrary, hinges on the testimony of Mr. Zatkovich, which we do not find persuasive on this point. Mr. Zatkovich's conclusion that a person of ordinary skill would not conclude that Figure 14 depicts program flows is unsupported. Mr. Zatkovich simply asserts this to be the case, without providing credible support. *See* Ex. 2001 ¶¶ 28-30.

We conclude that a preponderance of the evidence demonstrates that claim 3 is unpatentable based on the combination of Antis and Coad.

4. Claim 4

Petitioner asserts that claim 4 would have been obvious over Antis, Coad, and Burkwald. Pet. 52-53. Claim 4 depends from claim 1 and adds the limitation that "the graphical representations of data flows are expandable and collapsible." Petitioner relies on Burkwald—a patent directed to a "system for visually representing modification information about a[ ] characteristic-dependent information processing system"—as disclosing this limitation. *See id.* at 52

(citing Ex. 1007, 14:43 – 15:4); Ex. 1007, Title. Petitioner explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 19. According to Petitioner, Burkwald's teaching of expanding and collapsing graphical representations of flows would have provided a developer with flexibility in the amount of detail shown in the view. *Id.* at 19-20. Patent Owner argues that the combination of Coad, Antis, and Burkwald does not disclose "data flows," but Patent Owner does not address any of the other limitations added by claim 4 or the rationale to combine the references. *See* PO Resp. 45-47.

Much like claim 3, claim 4 specifically limits the graphical representations, here to data flows. Thus, we must determine whether Coad shows *data flows* as we construe that term—a graphical representation comprised of icons depicting data processing steps and arrows to depict the movement of data through source code.

Petitioner argues that the UML sequence and collaboration diagrams of Coad show data flows. Pet. 43, 52-53; Reply 7. Consistent with this assertion, Dr. Roussopoulos explains that a person of ordinary skill in the art would understand Figure 14 to depict data flows. Ex. 1015 ¶¶ 97-98. According to Dr. Roussopoulos, "[t]he person of ordinary skill in the art would thus understand Figure 14 of Coad to disclose a graphical representation of data flow because it shows *which pieces of data* (*i.e.*, the data that is passed to the functions) *are accessed by which*

pieces of source code (*i.e.*, the source code comprising the functions)." *Id.* ¶ 98.

We are not persuaded by Dr. Roussopoulos's unsupported conclusions on this point. For example, although his testimony addresses part of our interpretation of the term "data flows"—"arrows to depict the movement of data through source code," his testimony does not explain how Coad depicts "icons depicting data processing steps." Conversely, Dr. Roussopoulos explicitly states that "[i]n Figure 14 of Coad, the horizontal dimension represents different objects" and "[i]n transitioning between the objects of the horizontal dimension, various functions are invoked." *Id.* Consistent with this testimony, Figure 14 appears to show "various functions" using arrows and objects using icons, but it is unclear that any icons represent "data processing steps" as required.

Dr. Roussopoulos also testifies that "a person of ordinary skill in the art would understand the statechart diagram of Figure 16 to disclose both data flows and program flows." *Id.* ¶ 103. This testimony relies on evidence that "a statechart diagram can be translated into a data flow diagram" leading a person of ordinary skill in the art to "understand that data flow must necessarily be depicted in a statechart diagram." *Id.* ¶ 104. Coad, however, explains that Figure 16 depicts "the sequences of states 1602 that an object or interaction goes through during its life." Ex. 1006, 17:16-20. Dr. Roussopoulos does not explain how this figure shows "icons depicting data processing steps." Dr. Roussopoulos's testimony that

Figure 17, an activity diagram, depicts data flows suffers from the same problem. *Id.* ¶ 107.[2]

In its reply brief, Petitioner adds that the UML diagrams of Coad (Figures 14-17) depict the same types of data flows as shown in Figures 8-2 and 8-3 of the UML Manual (Ex. 1043). Reply 6. The figures depicted in the UML Manual, however, suffer from the same problem as we have identified for Figures 14, 16, and 17 of Coad—they do not appear to show "icons representing data processing steps."

We conclude that Petitioner has not shown by a preponderance of the evidence that dependent claim 4 would have been obvious to a person of ordinary skill in the art based on the combined disclosure of Coad, Antis, and Burkwald.

5. Claims 7 and 9

Claim 7 depends from claim 6 and adds the limitation that "the document manager comprises a security layer for managing secure connections with the one or more remote computers." Petitioner relies on Eick—a patent directed to a "system and method for interactive visualization, analysis and control of a dynamic database"—as disclosing this limitation. *See* Pet. 53 (citing Ex. 1008, 4:19-27); Ex. 1008, Title. Petitioner explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to visual representations of source code and data structures. Pet. 21. Moreover, according to Petitioner, Eick's

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[2] This conclusion is consistent with our decision declining to institute an *inter partes* review of claim 2 because we were not persuaded that either Antis or Coad discloses the claimed "graphical representation" of a "data flow." Dec. 19.

teaching of a security layer for managing secure connections with remote computers would allow the systems of Antis and Coad to be distributed to one or more locations without a substantial security risk. *Id.* at 21-22.

Claim 9 depends from claim 8 and adds the limitation that "the template manager is adapted to automatically correct segments of the source code." Petitioner relies on Building Applications—a book including information about Microsoft Access 97 software—as disclosing this limitation. Pet. 54-55 (citing Ex. 1011, 52-54). Petitioner explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 23. According to Petitioner, Building Applications's teaching of automatically correcting segments of source code determined to have errors would simplify the debugging of source code in Antis and Coad. *Id.* at 23-24.

Patent Owner does not separately argue these grounds, but instead states that "[t]hese claims are patentable for the same reasons as set forth . . . with respect to claim 1." PO Resp. 47. For the reasons discussed with respect to claim 1, and considering the record, we conclude that a preponderance of the evidence demonstrates that claim 7 is unpatentable based on the combination of Antis, Coad, and Eick, and claim 9 is unpatentable based on the combination of Antis, Coad, and Building Applications for the reasons argued by Petitioner.

G. Patent Owner's Contingent Motion to Amend Claims

Patent Owner filed a motion to enter proposed, amended claims 17-25, contingent on the Board determining that claims 1 and 3-10, respectively, are unpatentable. Paper 20 ("Mot. to Amend"). Patent Owner also filed a Second Contingent Motion to Amend solely addressing potential antecedent basis issues in the proposed substitute claims. Paper 28 ("Second Mot. to Amend"). Because we determine that claims 1, 3, and 5-10 are unpatentable, we consider the proposed substitute claims 17, 18, and 20-25. However, because we do not determine that claim 4 is unpatentable, we do not consider the proposed substitute for that claim—claim 19.

During an *inter partes* review, we enter proposed amended claims only upon a showing that the amended claims are patentable. *Idle Free Sys. v. Bergstrom, Inc.*, Case IPR2012-00027, slip op. at 33 (PTAB Jan. 7, 2014) (Paper 66). This burden may not be met by merely showing that the proposed claims are distinguished over the prior art references applied to the original patent claims. Instead, because there is no examination of the proposed claims, the Patent Owner must show that the subject matter recited is not taught or suggested by the prior art for us to determine if they comply with 35 U.S.C. §§ 102 and 103. *Id.*

Petitioner argues that Patent Owner has not met its burden because it makes no statement that the substitute claims are patentable over prior art not of record, does not include any discussion of the level of ordinary skill in the art, and does not discuss what was previously known regarding the features of the substitute claims. Paper 25 ("Opp."), 2.

We agree that, although it is Patent Owner's burden to show patentability over the prior art, Patent Owner does not assert, or direct us to evidence, that the IDE claimed in the proposed substitute claims was novel over other IDE's known in the art. *See* Tr. 53:15-54:13. Instead, Patent Owner focuses only on Coad, the Oracle Primers, Antis, and U.S. Patent No. 6,785,668 B1 ("Polo"). Accordingly, Patent Owner has not met the burden it undertook by putting forth the proposed amended claims. For that reason, the Motion to Amend is *denied* to the extent it seeks entry of substitute claims 17, 18, and 20-25.

Even if Patent Owner's burden was to show patentability over only the prior art of record, we would not be persuaded that the proposed claims are patentable. To the contrary, we are persuaded that the proposed claims would have been obvious over Coad combined with either the Oracle Primers or Antis.

1. Proposed Substitute Claim 17

Claim 17, the proposed substitute for independent claim 1, is identical to original claim 1 except that it adds the following limitation to the visualizer element: "the graphical representations of flows showing a flow within the retrieved source code between data manipulation procedures in an order in which the data manipulation procedures are performed on retrieved data." Second Mot. to Amend 2 (emphasis omitted).

Patent Owner argues that proposed substitute claim 17 is patentable over Coad combined with the Oracle Primers, Coad combined with Antis, and Polo.

Mot. to Amend 8-11. According to Patent Owner, the added limitation "clarifies that the flow is 'between' data manipulation procedures and that the data manipulation procedures must be performed on 'retrieved data.'" Mot. to Amend 8-9.

Patent Owner explains that because the graphical depictions of JDBC or embedded SQL in the environment of Coad do not access a database *directly*, they would only show the retrieval of data ("retrieved data"), but would not show a subsequent data manipulation step or flow between subsequent data manipulation steps. *Id.* at 9 (citing Ex. 2001 ¶¶ 67-68). Thus, according to Patent Owner, proposed substitute claim 17 would not have been obvious over the combination of Coad and the Oracle Primers. *Id.* As for the combination of Antis and Coad, Patent Owner argues that neither Coad nor Antis discloses graphical representations of flows of data manipulation procedures being performed on retrieved data. *Id.* at 9-10 (citing Ex. 2001 ¶ 69).

We do not find these arguments persuasive. As discussed above, we have determined that a person of ordinary skill in the art would have found independent claim 1 obvious over the combination of Coad and the Oracle Primers. We are not persuaded that the added limitation of proposed substitute claim 17 would not have been obvious to a person of skill in the art in view of the disclosure of Coad and the Oracle Primers.

a. Data Manipulation Procedures

Patent Owner's arguments all rely on the added limitation requiring that a graphical representation show "a flow within the retrieved source code

between data manipulation procedures." Despite the fact that the term "data manipulation procedure" is not used in the '936 patent, Patent Owner does not provide a claim construction for the term. *See* Mot. to Amend. Based on Patent Owner's patentability arguments, we infer that a "data manipulation procedure" under Patent Owner's interpretation requires that the procedure *directly* access data in a database. *See* Paper 26 ("Mot. to Amend Reply") 2-3 ("A function call in source code to an external program is not a 'data manipulation procedure' since any data manipulation would occur *external* to the source code."); Tr. 47:20-24 ("I think that the base assumption there is that a function call within C++ would be a data manipulation procedure, and I think that's entirely inconsistent with the specification read by one skilled in the art in 2001.").

Petitioner argues that this interpretation of "data manipulation procedures" is too narrow. Opp. 5. Instead, Petitioner asserts that the proper interpretation of the claim term is based on the interpretation of "data manipulation language." *Id.* According to Petitioner, because a data manipulation procedure requires only a procedure that is used to access data in a database, but does not require that access to be direct, a "data manipulation procedure" correspondingly is a procedure that accesses data in a database, and extends to procedures that access the data indirectly. *Id.* Patent Owner appears to agree that the interpretation of "data manipulation procedure" is tied to the interpretation of "data manipulation language." *See* Tr. 49:22-50:9 ("Essentially, once you start defining data manipulation languages as broad as C++ with

embedded SQL, you've eviscerated the point of adding this claim limitation."); *see also* Mot. to Amend Reply 3 (referring to "data manipulation procedures" as "DML procedures").

For the reasons explained with respect to the interpretation of "data manipulation language," we agree with Petitioner that the broadest reasonable interpretation of "data manipulation procedure" does not require direct access to a database, and, thus, interpret "data manipulation procedure" to mean a procedure used to access data in a database, such as to retrieve, insert, delete, or modify data in the database.

b. Retrieved Data

Again, the term "retrieved data" is not used in the '936 patent and Patent Owner does not proffer a proposed interpretation of this term. However, Patent Owner asserts that data retrieved from a database are no longer "retrieved data" once they are returned to the database. Mot. to Amend Reply 3. Petitioner does not address the construction of this element. We are persuaded that our patentability analysis is unaffected, regardless of whether we adopt Patent Owner's definition. Therefore, we proceed under Patent Owner's understanding of the term.

c. Patentability

We are not persuaded that proposed substitute claim 17 is patentable over Coad combined with the Oracle Primers. Patent Owner argues because the "data manipulation procedures are performed on retrieved data," a C++ function call with embedded SQL would not meet the additional claim limitation

of proposed substitute claim 17. Mot. to Amend Reply 3; *see also* Tr. 50:10-16. Specifically, Patent Owner asserts that "one skilled in the art would not consider" following an embedded SQL retrieve step with a second embedded SQL manipulation step "because that would be inefficient and unnecessary." Mot. to Amend Reply 3. Patent Owner, however, does not direct us to evidence supporting this attorney argument.

Petitioner, on the other hand, states that "[a]fter retrieving data, additional functional calls may be used to perform data manipulation procedures on the retrieved data." Opp. 6-7 (citing Ex. 1015 ¶ 53). We credit Dr. Roussopoulos's testimony on this issue, which he bases on language in the Oracle8 Primer. Ex. 1015 ¶ 53 (citing Ex. 1013, 93, 95, 103, 118). We, therefore, are not persuaded that proposed substitute claim 17 is patentable over the combination of Coad and the Oracle Primers.

2. Proposed Substitute Claim 18

Claim 18, the proposed substitute for dependent claim 3, depends from proposed substitute claim 17 and adds the following limitation to claim 3: "having procedure icons and arrows that show an actual execution path within the retrieved source code as performed on the retrieved data." Second Mot. to Amend 2.

According to Patent Owner, proposed substitute claim 18 is patentable because "[t]he UML diagrams of Coad, at best, disclose all possible pathways within the source code, as opposed to the added limitation that would only show a graphical execution path of

the actual flow of data within the source code." Mot. to Amend 12.

We do not agree with Patent Owner's interpretation of the scope of proposed substitute claim 18. The claim does not require, on its face, that *only* the actual execution path be shown. Instead, it simply states that such "actual execution path" will be shown. Thus, Patent Owner concedes that Coad discloses this limitation by showing all possible pathways, which logically includes the actual execution path.

Thus, we are not persuaded that claim 18 is patentable over Coad combined with Antis.

3. Proposed Substitute Claim 23

Claim 23, the proposed substitute for dependent claim 8, is written in independent form to include the language of proposed substitute claim 17. Second Mot. to Amend 3-4. In addition, proposed substitute claim 23 adds the following limitations to the visualizer element: "having data processing procedure icons and arrows to depict program flow or icons depicting data processing steps and arrows to depict flow of data in an order data processing procedures or data processing steps occur" and "the data processing procedures or data processing steps being graphically depicted as being completed prior to showing flow to a next procedure or step." *Id.* at 4.

Patent Owner points to Figures 9 and 19 of the original '936 patent application as providing support for the feature that "the data processing procedures or data processing steps being graphically depicted as being completed prior to showing flow to a next procedure or step." Mot. to Amend 7-8. Specifically,

Patent Owner asserts that "one skilled in the art would understand that the ['936] patent discloses the graphical depiction of flow between completed DML procedures or steps." Mot. to Amend Reply 5 (citing Ex. 2001 ¶¶ 72-76).

Petitioner argues that proposed substitute claim 23 is unpatentable due to a lack of written description support because the '936 patent specification does not disclose graphical representations including steps that are completed prior to showing flow to the next step. Opp. 13-14. Addressing Mr. Zatkovich's testimony on the issue, Petitioner argues that the testimony describes aspects of the underlying source code from which a flow diagram may be created, but does not point to any particular feature of the figures or any particular language in the '936 patent application that depicts this limitation. *Id.* at 14.

A motion to amend must set forth the support in the original disclosure of the patent for each claim that is added or amended and the support in an earlier-filed disclosure for which the benefit of the filing date of the earlier filed disclosure is sought. 37 C.F.R. § 42.221(b). We agree with Petitioner that Patent Owner's Motion to Amend fails to show where the '936 patent supports the limitation "the data processing procedures or data processing steps being graphically depicted as being completed prior to showing flow to a next procedure or step."

As an initial matter, Patent Owner does not explain what is meant by "graphically depicted as being completed." This language is not found in the specification of the '936 patent, and Patent Owner does not direct us to language in the '936 patent that sheds light on the meaning of this phrase. In support

of the Motion to Amend, Patent Owner directs us to the declaration of Mr. Zatkovich. Ex. 2001. Mr. Zatkovich, however, also does not explain what meaning a person of ordinary skill in the art would give to the phrase. Without such explanation, Patent Owner has neither provided a sufficient explanation of the additional claim language nor established sufficient written description support for such language.

Moreover, in the Motion to Amend, Patent Owner does not identify specifically what portion of the specification actually supports this limitation. *See, e.g.*, Mot. to Amend 7 ("The limitations [of claim 23] are supported by the original specification, page 3, line 23 to page 4, line 2; page 28, lines 1—16; page 29, lines 3-6; and Figs. 9, 17, and 19."). In its Reply, Patent Owner asserts that Figure 19 of the '936 patent shows source code in the bottom of the window "and the corresponding graphical representation of flow between *completed* DML procedures in the top window." Mot. to Amend Reply 5. Patent Owner adds that the specification states that the visualizer window represents "the procedures and data blocks as program flow icons 126." *Id.* (emphasis omitted). Nothing in this language explains how any of the figures of the '936 patent "graphically depict [a procedure] as being completed." Patent Owner directs us to testimony of Mr. Zatkovich stating that Figure 9 depicts a "simple flow" where "[e]ach step is a process that begins when the process receives an[ ] input and terminates when the outputs are sent to another step." Ex. 2001 ¶ 73. However, we are not persuaded by this testimony that Figure 9 provides sufficient support for this limitation. For example, it

is unclear how Figure 9 "graphically depicts [a procedure] as being completed."

Thus, we are not persuaded that claim 23 is patentable over Coad combined with Antis.

4. Proposed Substitute Claims 20-22, 24, and 25

Patent Owner argues that proposed substitute claims 20-22, 24, and 25 are patentable over the prior art for the same reason as proposed substitute claims 17 and 23, and does not present separate arguments as to the alleged patentability of these claims. Mot. to Amend 14. For the reasons discussed above, we are not persuaded by these arguments. Thus, we are not persuaded that Patent Owner has met its burden to show that proposed substitute claims 20-22, 24, and 25 are patentable over the prior art.

III. CONCLUSION

Petitioner has shown, by a preponderance of the evidence, that the challenged claims are unpatentable based on the following grounds: (1) claim 1 would have been obvious over Coad combined with Oracle Primer and Oracle8 Primer; (2) claims 1, 3, 5, 6, 8, and 10 would have been obvious over Antis combined with Coad; (4) claim 7 would have been obvious over Antis combined with Coad and Eick; and (5) claim 9 would have been obvious over Antis combined with Coad and Building Applications.

Petitioner has not shown that claim 4 is unpatentable. Claims 2 and 11-16 are not at issue in this trial.[3]

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[3] In the Decision to Institute, we declined to institute an *inter partes* review of claims 2 and 11-16 because we were not persuaded that Petitioner had shown that there was a

Patent Owner has not shown that its proposed substitute claims 17, 18, and 20-25 are patentable over the prior art.

Accordingly, it is

ORDERED that claims 1, 3, and 5-10 of the '936 patent are determined to be *unpatentable*;

FURTHER ORDERED that Patent Owner's Motion to Amend Claims is *denied*; and

FURTHER ORDERED that because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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reasonable likelihood of prevailing on its challenges to these claims. Dec. 11, 19, 21.

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APPENDIX C

United States Court of Appeals for the Federal Circuit

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

ON PETITION FOR REHEARING EN BANC

JOHN MARLOTT, Jones Day, Chicago, IL, for appellant. Also represented by GREGORY A. CASTANIAS, Washington, DC; DAVID B. COCHRAN, Cleveland, OH; MATTHEW JOHNSON, Pittsburgh, PA.

MATTHEW TOPIC, Loevy & Loevy, Chicago, IL, for cross-appellant.

NATHAN K. KELLEY, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor Michelle K. Lee. Also represented by

SCOTT WEIDENFELLER, JOSEPH GERARD PICCOLO, STACY BETH MARGOLIES, SARAH E. CRAVEN.

Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK, MOORE, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.*

NEWMAN, *Circuit Judge*, dissents from the denial of the petition for rehearing en banc.

PER CURIAM.

ORDER

Appellant SAS Institute, Inc. filed a petition for rehearing en banc. Responses to the petition were invited by the court and filed by intervenor Michelle K. Lee and cross-appellant Complementsoft, LLC. The petition was first referred as a petition for rehearing to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service. A poll was requested, taken, and failed.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on November 14, 2016.

FOR THE COURT

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* Circuit Judge O'Malley did not participate.

November 7, 2016
Date

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court

United States Court of Appeals for the Federal Circuit

SAS INSTITUTE, INC.,
Appellant

v.

COMPLEMENTSOFT, LLC.,
Cross-Appellant

2015-1346, 2015-1347

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00226.

NEWMAN, *Circuit Judge*, dissenting from denial of the petition for rehearing *en banc*.

Administrative agency practices are required to conform to the authorizing legislation and the statutory purpose. The Patent and Trademark Office ("PTO"), charged with administering the Leahy–Smith America Invents Act ("AIA"), P.L. 112–29, has adopted some implementing practices that are not authorized by the statute and not in accord with the legislative purpose of achieving final resolution of disputed patent validity issues by agency action in place of litigation.

This case concerns the PTO's adoption of the practice whereby on *inter partes* review ("IPR") the PTO may, in its sole discretion, choose to decide some, but not all, of the patent claims that are challenged

under the statute. This practice foils the legislative purpose of resolving certain patent issues in an administrative forum, newly available to litigants previously confined to the district court. From my colleagues' refusal to reconsider this agency practice *en banc*, I respectfully dissent.

DISCUSSION

The America Invents Act established a new adjudicatory body called the Patent Trial and Appeal Board ("PTAB"), an administrative tribunal vested with authority to conduct trials including discovery, evidence, testimony, briefs, argument, and final decision. The PTAB's decisions produce estoppel in all subsequent proceedings between the parties, both administrative and judicial. The goal is the efficient and reliable resolution of certain patent disputes without the cost and delay and uncertainty of district court litigation. As explained by Senator Kyl, a principal architect of the legislation, this system "ideally [will] completely substitute for at least the patents- and-printed-publication portion of the civil litigation." 157 CONG. REC. S1376 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl).

This goal was paramount during the years of genesis of the America Invents Act. "It is clearly appropriate to have an administrative process for challenging patent validity, but it should exist within a structure that guarantees a quick–and final–determination." *Patent Reform Act of 2009: Hearing on H.R. 1260, House Comm. on the Judiciary*, 111th Cong. 153 (April 30, 2009) (statement of Rep. Manzullo). The AIA provides for final determination of validity as to the grounds asserted against the claims challenged in the petition.

However, the PTO adopted regulations that authorizes the PTAB to choose to decide some, but not all, of the challenged claims. The practice, called "partial" or "selective" institution, leaves the unselected claims dangling, lacking both finality and estoppel, preventing the expediency and economy and efficiency that motivated the America Invents Act. Senator Kyl stressed a primary purpose of the Act "to force a party to bring all of [its] claims in one forum . . . and therefore to eliminate the need to press any claims in other fora." 154 CONG. REC. S9989 (daily ed. Sept. 27, 2008) (statement of Sen. Kyl).

Instead, by "partial institution" the petitioner is not only mired in the proceeding for the claims that the PTAB has selected, but may also be obliged to litigate the other claims in other for a, even though those claims were properly presented to the PTAB for adjudication. The matter requires *en banc* correction, for this court has endorsed the PTO's position that "the final order of the Board need not address every claim raised in the petition for review" *Synopsys, Inc., v. Mentor Graphics Corp.*, 814 F.3d 1309, 1311 (Fed. Cir. 2016).

THE STATUTE

The provisions of the AIA form a coherent whole only when all of the properly challenged claims are decided by the PTAB. "The cardinal rule of statutory interpretation [is] that no provision should be construed to be entirely redundant." *Kungys v. United States*, 485 U.S. 759, 778 (1988). "It is the duty of the court to give effect, if possible, to every clause and word of a statute" *Inhabitants of Montclair Tp. v. Ramsdell*, 107 U.S. 147, 152 (1883).

Relevant statutory provisions include—

35 U.S.C § 311 *Inter Partes* Review

Section 311 authorizes the defined post-grant challenges in the PTO. The purpose is not only to avoid or reduce the burdens and costs and delays of litigation, but potentially to avert litigation. *See* 157 CONG. REC. S1053 (Mar. 1, 2011) (statement of Sen. Whitehouse) ("[T]he bill will improve administrative processes so that disputes over patents can be resolved quickly and cheaply without patents being tied up for years in expensive litigation."); *see also* H.R. REP. NO. 112-98 pt.1 at 48 (2011) ("[T]he purpose of the section is providing quick and cost effective alternatives to litigation."):

> **§ 311(a)** ***In general.***— Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an *inter partes* review of the patent. . . .
>
> **(b)** ***Scope.***— A petitioner in an *inter partes* review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

The PTO's then-Director Dudas explained that the majority of validity challenges are on § 102 or §103 grounds based on reference patents and printed publications. *See Patent Reform: The Future of American Innovation: Hearing Before the Senate Comm. on the Judiciary*, 110th Cong. 7 (2007) (statement of Director Jon Dudas).

The legislative record is unambiguous: the purpose of the AIA procedure is to move these validity challenges into the PTO, whose expertise in technology and experience in the relevant law are intended to produce decisions entitled to estoppel in any judicial or administrative proceeding between these parties or their privies. Senator Grassley explained the intended effect: "If an *inter partes* review is instituted while litigation is pending, that review will completely substitute for at least the patents-and-printed-publications portion of the civil litigation." 157 CONG. REC. S1376 (daily ed. Mar. 8, 2011) (statement of Sen. Grassley). This complete substitution, as enacted by Congress, cannot occur if the validity of only some of the challenged claims is decided, leaving the other challenged claims untouched.

35 U.S.C. § 312 Petitions

Section 312 states the required content of these postgrant petitions. When the specified content is not provided, the petition must be denied. When the specified content is provided, the petition may or may not be "instituted," in the PTO's unchallenged discretion. However, the statute does not contemplate the partial institution of only those parts selected by the PTO:

> **§ 312(a)** ***Requirements of petition.***—A petition filed under section 311 may be considered only if—
>
> . . . .
>
> **(3)** the petition identified, in writing and with particularity, each claim challenged, the grounds on which the challenge to each

> claim is based, and the evidence that supports the grounds for the challenge to each claim, including— . . . .

At enactment Senator Grassley explained that "by requiring petitioners to tie their challenges to particular validity arguments against particular claims, the new threshold will prevent challenges from 'mushrooming' after the review is instituted into additional arguments employing other prior art or attacking other claims." 157 CONG. REC. S1376 (daily ed. Mar. 8, 2011). Emphasis on this requirement pervaded the genesis of the legislation. Senator Kyl explained that the petitioner "must present a full affirmative case" as to every challenged claim. 154 CONG. REC. S9987 (daily ed. Sept. 25, 2008) (statement by Sen. Kyl on S. 3600).

While § 314(d), discussed *infra*, provides that the PTO may refuse to accept any petition in its entirety, it was never contemplated that only some of the challenged claims might be reviewed, nor does § 314(d) provide such discretion, for this defeats the purpose of the proceeding.

The legislative record stresses the intent "to eliminate the need to press any claims in other fora." 154 CONG. REC. S9989 (daily ed. Sept. 27, 2008) (statement of Sen. Kyl).

35 U.S.C. § 313 Preliminary response to petition

The patent owner is authorized to respond, and to argue that "no *inter partes* review should be instituted."

There is no suggestion of partial institution.

35 U.S.C. § 314 Institution of *inter partes* review

"What the bill does . . . is very simple. It says the Patent Office will make an administrative determination before the years of litigation as to whether this patent is a legitimate patent so as not to allow the kind of abuse we have seen." 157 CONG. REC. S5437 (daily ed. Sept. 8, 2011) (Statement of Sen. Schumer on Senate consideration of H.R. 1249). Section 314 provides for the threshold determination of whether to proceed at all and sets time limits for the decision of whether to institute review:

> **§ 314(a)** ***Threshold.***—The Director may not authorize an *inter partes* review to be instituted unless the director determines that the information presented in the petition filed in section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.
>
> **(b)** ***Timing.***—The Director shall determine whether to institute an *inter partes* review under this chapter pursuant to a petition filed under section 311 within 3 months after—
>
> > (1) receiving a preliminary response to the petition under section 313; or
> >
> > (2) if no such preliminary response is filed, the last date on which such response may be filed.

In legislative response to the PTO's concern about its ability to meet a sudden increase in workload, the statute provides that the PTO is not obligated to accept every petition, even when meritorious. Senator Kyl explained that this "reflects a legislative judgment that it is better that the Office turn away

some petitions that otherwise satisfy the threshold for instituting and *inter partes* or post-grant review than it is to allow the Office to develop a backlog of instituted reviews that precludes the Office from timely completing proceedings." 157 CONG. REC. S1377 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl). As part of this expedient, as well as to avert delay due to interlocutory appeal, the Act provides that the threshold decision whether to institute review is not appealable:

> **(d) No appeal.**— The determination by the Director whether to institute an *inter partes* review under this section shall be final and nonappealable.

Thus, when a petition for review is declined, litigation may proceed. The statutory plan is for an alternative to litigation, not duplicative litigation as may arise from partial institution.

35 U.S.C § 315 Relation to other proceedings or actions

A primary focus of the AIA is to avoid the cost and delay and uncertainty of patent litigation. Thus the statute places controls on the relation between these PTO proceedings and district court and ITC litigation. Of particular concern is the effect of partial institution on the integrity of the new estoppel provisions:

> **§ 315(e)** ***Estoppel***—
>
> **(1)** ***Proceedings before the Office.***—The petitioner in an *inter partes* review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the

> petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that *inter partes* review.
>
> **(2) *Civil actions and other proceedings.*—** The petitioner in an *inter partes* review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that *inter partes* review.

A goal of these new PTO proceedings is finality of decision. As the legislation evolved, it was stressed that "if [such] proceedings are to be permitted, they should generally serve as a complete substitute for at least some phase of the litigation." S. REP. NO. 110-259, at 67 (2008) (Additional Views of Sen. Specter joined with Minority Views of Sens. Kyl, Grassley, Coburn and Brownback).

The estoppel provisions were controversial. *See, e.g.*, S. REP. NO. 111-18, at 17 (2009) ("Many businesses also have described could-have-raised estoppel as a powerful brake on their use of *inter partes* reexamination. They find this standard vague and uncertain, and fear that if they challenge a patent in an *inter partes* reexamination, they will lose the ability to raise later-discovered prior art against

the patent if they are subsequently sued for infringement."). The statute as enacted embodies the dominant policy weight on the benefits of finality and estoppel, as explained by then-Director of the USPTO David Kappos: "Those estoppel provisions mean that your patent is largely unchallengeable by the same party." *Hearing on H.R. 1249 before the Subcomm. on Intell. Prop., Competition and the Internet of the House Comm. on the Judiciary*, 112th Cong. (2011).

On enactment, Senator Grassley flagged the purpose and significance of the estoppel provisions:

> In addition, the bill would improve the current *inter partes* administrative process for challenging the validity of a patent. It would establish an adversarial *inter partes* review, with a higher threshold for initiating a proceeding and procedural safeguards to prevent a challenger from using the process to harass patent owners. It also would include a strengthened estoppel standard to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge. The bill would significantly reduce the ability to use post-grant procedures for abusive serial challenges to patents. These new procedures would also provide faster, less costly, alternatives to civil litigation.

157 CONG. REC. S952 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley). These goals are thwarted by the partial institution practice.

Estoppel cannot arise as to claims that the PTO declined to review. Partial institution negates the

purpose that any patent claim challenged by the petitioner and any new claim added during the proceeding could be fully and finally decided, thereby bringing "more certainty in litigation." 157 CONG. REC. S948 (daily ed. Feb. 28, 2011) (statement of Sen. Leahy).

35 U.S.C § 316 Conduct of inter partes review

Section 316 authorizes the PTO Director to issue regulations, sets some evidentiary standards, and provides rules whereby the patent owner may file one motion to amend its claims. The rules here of concern are 37 C.F.R. 42.108(a) ("When instituting *inter partes* review, the Board may authorize the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim."); 37 C.F.R. 42.108(b) ("At any time prior to institution of *inter partes* review, the Board may deny some or all grounds for unpatentability for some or all of the challenged claims. Denial of a ground is a Board decision not to institute *inter partes* review on that ground."). These practices work against the statutory purpose of final resolution of § 102 and § 103 issues.[1]

The Administrative Procedure Act requires that a reviewing court "shall hold unlawful and set aside agency action, findings, and conclusions found to be

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[1] The estoppel in IPR proceedings differs from the estoppel in the CBM transitional proceedings, 35 U.S.C. § 18(a)(1)(D) ("The petitioner in a transitional proceeding that ... results in a final written decision ... may not assert ... that the claim is invalid on any ground that the petitioner raised during that transitional proceeding."). Both the "raised" and "could-have-raised" standards are affected by partial institution.

in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 5 U.S.C. § 706(2)(C). "If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress." *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984).

35 U.S.C. § 318 Decision of the Board

The legislation requires a final decision as to every claim challenged in the petition.

> **§ 318(a)** ***Final Written Decision***— If an *inter partes* review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

The statute requires the Board's final decision to encompass "the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)."

This requirement to render a final decision for each of the challenged claims directly comports with the estoppel provisions. Fidelity to this legislative purpose is a necessity if the AIA's new adjudicatory proceeding is to substitute for major aspects of patent validity litigation.[2] Such substitution will serve the

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[2] I have focused on the question of partial institution, mindful that other aspects of AIA implementation are arising in other cases, all of which together affect the vitality of the statute. *See Davis v. Michigan Dept. of Treasury*, 489 U.S. 803, 809 (1989) ("A court must therefore interpret the statute 'as a symmetrical

Nation's interest in technological innovation and resultant societal benefits.

CONCLUSION

On this petition for rehearing *en banc*, the judicial obligation is to assure fidelity to the intent of Congress, as expressed in the statute and the legislative record, lest we become complicit in "frustrating the policy that Congress sought to implement:"

> [T]he courts are the final authorities on issues of statutory construction. They must reject administrative constructions of the statute, whether reached by adjudication or by rulemaking, that are inconsistent with the statutory mandate or that frustrate the policy that Congress sought to implement.

Fed. Energy Comm'n v. Democratic Senatorial Campaign Comm., 454 U.S. 27, 32 (1981). Thus I must, respectfully, dissent from the denial of rehearing *en banc*.

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and coherent regulatory scheme,' and 'fit, if possible, all parts into an harmonious whole.'") (internal citations omitted).

APPENDIX D

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Paper 9
Entered: August 12, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAS INSTITUTE, INC.
Petitioner

v.

COMPLEMENTSOFT, LLC
Patent Owner

Case IPR2013-00226
Patent 7,110,936 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JENNIFER S. BISK, *Administrative Patent Judges.*

BISK, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

SAS Institute, Inc. ("SAS") filed a petition ("Pet.") (Paper 1) to institute an *inter partes* review of claims 1-16 of Patent 7,110,936 B2 (the "'936 patent") pursuant to 35 U.S.C. § 311 *et seq.* ComplementSoft, LLC ("ComplementSoft") filed a preliminary response ("Prelim. Resp.") (Paper 8). We have jurisdiction under 35 U.S.C. § 314. We conclude that SAS has satisfied the burden to show, under 35 U.S.C. § 314(a), that there is a reasonable likelihood that it would prevail with respect to at least one of the challenged claims.

SAS contends that the challenged claims are unpatentable under 35 U.S.C. §§ 102 and/or 103 based on the following specific grounds (Pet. 11-12):[1]

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[1] SAS also asserts that "[t]o the extent not explicitly enumerated above, claims 2-16 are unpatentable over each reference and combination of references asserted for claim 1 in view of the prior art." Pet. 12. This assertion fails to satisfy the requirement that a petition must identify with particularity each claim challenged, the grounds on which the challenge is based, and the evidence that supports the grounds for the challenge to each claim. *See* 35 U.S.C. § 312(a)(3); 37 C.F.R. §§ 42.22(a), 42.104(b)(4)-(5). We, therefore, do not further address these unsupported challenges.

Reference[s][2]	Basis	Claims challenged
Coad	§102	1
Coad, Oracle Primer, and Oracle8 Primer	§103	1
Antis	§102	1-3 and 5
Antis and Coad	§103	1-3, 5, 6, 8, 10-12, 15, and 16
Antis, Coad, and Burkwald	§103	4
Antis, Coad, and Eick	§103	7
Antis, Coad, and Building Applications	§103	9
Antis, Coad, and Corda	§103	13
Antis, Coad, and Access 97 Visual Basic	§103	14

For the reasons described below, we institute an *inter partes* review of claims 1 and 3-10 based on the following grounds: (1) claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer; (2) claims 1, 3, 5, 6, 8, and 10 are obvious over Antis

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[2] U.S. Patent 5,572,650 (Ex. 1005) ("Antis"); U.S. Patent 6,851,107 (Ex. 1006) ("Coad"); U.S. Patent 6,356,285 (Ex. 1007) ("Burkwald"); U.S. Patent 5,937,064 (Ex. 1008) ("Eick"); Evan Callahan, MICROSOFT ACCESS 97 VISUAL BASIC STEP BY STEP (1997) (Ex. 1009) ("Access 97 Visual Basic"); U.S. Patent 5,782,122 (Ex. 1010) ("Corda"); Microsoft Corporation, BUILDING APPLICATIONS WITH MICROSOFT ACCESS 97 (1996) (Ex. 1011) ("Building Applications"); Rajshekhar Sunderraman, ORACLE PROGRAMMING: A PRIMER (1999) (Ex. 1012) ("Oracle Primer"); and Rajshekhar Sunderraman, ORACLE8 PROGRAMMING: A PRIMER (2000) (Ex. 1013) ("Oracle8 Primer").

combined with Coad; (3) claim 4 is obvious over Antis combined with Coad and Burkwald; (4) claim 7 is obvious over Antis combined with Coad and Eick; and (5) claim 9 is obvious over Antis combined with Coad and Building Applications.

We decline to institute *inter partes* review of (1) claims 2 or claims 11-16; (2) claim 1 based on anticipation by Coad; or (3) claims 1, 3, or 5 based on anticipation by Antis.

B. The Invention

The '936 patent describes a language independent software development tool having a graphical user interface, also referred to as an Integrated Development Environment or IDE. Ex. 1001, col. 1, ll. 15-19. In particular, the patent describes an IDE for exchanging, editing, debugging, visualizing, and developing software code for "data manipulation centric languages." *Id.* at col. 1, 1.64-col. 2, l. 3.

The Summary of the Invention describes the IDE as including each of the following: (1) a document manager that manages connections between computers and transfers files (col. 2, ll. 20-26); (2) an editor that can modify code within an existing file using advanced editing features or create a new file (col. 2, ll. 27-33); (3) a visualizer that generates a graphical representation of the program flow, data flow, or logic of the code (col. 2, ll. 34-49); (4) a template manager that allows the user to browse through a repository of existing code or templates and copy a selected template into a file for editing (col. 2, ll. 50-54); and (5) a parser layer that detects the type of code in the selected file and activates the corresponding rules and logic (col. 2, ll. 55-62).

Claim 1, reproduced below, is the '936 patent's only independent claim:

1. An integrated development environment, comprising:

a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;

an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and

a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser,

wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are

automatically reflected in the source code displayed by the editor.

We note that the '936 patent is asserted currently in *ComplementSoft, LLC v. SAS Institute, Inc.*, Docket No. 1:12-cv-07372 (N.D. Ill. Sept. 14, 2012) ("the related litigation"). *See* Pet. 58; Paper 6 at 2.

C. Claim Construction

As a step in our analysis for determining whether to institute a trial, we determine the meaning of the claims. Consistent with the statute and the legislative history of the America Invents Act (AIA), the Board will interpret claims using the broadest reasonable construction in light of the specification. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48766 (Aug. 14, 2012); 37 CFR § 42.100(b). Both parties submit proposed constructions for several claim terms. Pet. 12-14; Prelim. Resp. 10-15. We summarize each of the proposed interpretations below:

Claim Term	**SAS Proposal**	**ComplementSoft Proposal**
automatically [reflected]	without user intervention	generated by the IDE, not by the user
data manipulation language	a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in a database	a computer programming language that enables a programmer to create a datacentric program
integrated		a single

development environment		comprehensive software development tool capable of assisting users in the editing, visualizing, debugging, and development of software
editor		a component of the IDE that can create new source code files, and also display and modify source code within existing source code files
graphical representation of flows		a diagram using icons and arrows to depict procedures in the order they occur in a data manipulation language and/or the movement of data through the processes performed by the procedures in the order they occur

We have considered the parties' proposals, but conclude that only the terms "data manipulation language" and "graphical representation of flows"

require an explicit construction for purposes of this decision.

1. Data Manipulation Language

Both parties offer a proposed interpretation of the claim term "data manipulation language." SAS asserts that the term means "a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database." Pet. 14. SAS bases this proposed interpretation on the '936 patent's disclosure of SQL® and Oracle® RDBMS as data manipulation languages for accessing data in a database. *Id.* (citing Ex. 1001, col. 1, ll. 20-25).

ComplementSoft argues that SAS's proposed definition is "inadequate" in that it "only provides examples of what a data manipulation language can do, not what a data manipulation language is." Prelim. Resp. 10-11. ComplementSoft proposes instead that "data manipulation language" means "a computer programming language that enables a programmer to create a datacentric program," i.e., a program in which "the data drives the objectives." *Id.* at 10. As support for this definition, ComplementSoft cites to the same language in the specification as does SAS. *Id.* (citing Ex. 1001, col. 1, ll. 20-30). In addition, ComplementSoft points to several other sections of the Specification, including language stating that the preferred embodiment is designed to work with specific types of code (col. 9, ll. 47-53; col. 17, ll. 40-45), language referring to "data processing steps" (col. 2, ll. 40-42), and figures illustrating data accessing and processing (Figs. 9 and 17).

We are persuaded that the definition proposed by SAS is the broadest reasonable construction of the term. The phrase "data manipulation language" is not defined explicitly in the written description of the '936 patent. Thus, there is a "heavy presumption" that the term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). We are persuaded that SAS's proposed definition is consistent with the ordinary and customary meaning of the term—"a language that is used to insert data in, update, and query a database." MICROSOFT COMPUTER DICTIONARY at 125 (4th ed. 1999).

We are not persuaded by ComplementSoft's arguments for its proposed interpretation. First, *both* proposed definitions define the term by describing what a "data manipulation language can do": SAS's proposal is that the language can be "used to access data in a database, such as to retrieve, insert, delete, or modify data in the database," while ComplementSoft proposes that the language "enables a programmer to create a datacentric program." Second, none of the citations to the '936 patent relied upon by ComplementSoft mandate its more narrow interpretation. The citations pointed to by ComplementSoft also support SAS's broader proposed definition.

Thus, for purposes of this decision, we construe the claim term "data manipulation language" to be a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database.

2. Graphical Representation of Flows

SAS does not address explicitly the construction of the claim term "graphical representation of flows." ComplementSoft asserts that the term should be defined as "a diagram using icons and arrows to depict procedures in the order they occur in a data manipulation language and/or the movement of data through the processes performed by the procedures in the order they occur." Prelim. Resp. 13-14. We are not persuaded that this is the broadest reasonable interpretation of the term.

First, we are not persuaded that the term "graphical representation" is limited to "icons and arrows" as proposed by ComplementSoft. *See id.* The plain and ordinary meaning of the word "graphical representation" is using a picture or graph to depict something else. *See, e.g.*, AMERICAN HERITAGE DICTIONARY at 573, 1049 (2nd College Ed. 1982) (defining "graphical" as "of or pertaining to pictorial representation"). Thus, the plain and ordinary meaning of "graphical representation of flows" is a picture or graph that depicts flows. Although the '936 patent describes the use of icons and arrows in diagrams *(see, e.g.*, col. 2, ll. 38-42), ComplementSoft does not point to language in the patent that limits the diagrams to those particular symbols.

Second, we are not persuaded that the "flows" are limited to "procedures in the order they occur in a data manipulation language and/or the movement of data through the processes performed by the procedures in the order they occur" as asserted by ComplementSoft. *See* Prelim. Resp. 13-14. The plain and ordinary meaning of the term "flow" in the context of computer software is a map of the

progression (or path) through the executing source code.[3] The '936 patent describes two kinds of flows, "program flows" and "data flows." Ex. 1001, col. 2, ll. 38-42. For example, a "program flow diagram" depicts a map of the progression of control through the executing source code and a "data flow diagram" depicts a map of the path of data through the executing source code. Ex. 1001, col. 2, ll. 33-43. ComplementSoft, however, does not point to language in the patent that limits the term "flows" to only those examples.

For purposes of this decision, therefore, we are persuaded that the broadest reasonable interpretation of the term "graphical representation of flows" is a diagram that depicts a map of the progression (or path) through the source code.

3. Means-Plus-Function Limitations

Several of the challenged claims include the language "means" or "means for" and therefore are presumed to invoke 35 U.S.C. § 112 ¶ 6. [4] *Personalized Media Commc'ns LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 703-04 (Fed. Cir. 1998). This presumption is not conclusive. *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1427-28 (Fed. Cir. 1997). For example, section 112 is not implicated

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[3] See, for example, flowchart: "A graphic map of the path of control or data through the operations in a program or an information-handling system." MICROSOFT COMPUTER DICTIONARY at 190 (4th ed. 1999).

[4] Section 4(c)of the AIA re-designated 35 U.S.C. § 112 ¶ 6, as 35 U.S.C. § 112(f). Because the '936 patent has a filing date before September 16, 2012 (effective date), we will refer to the pre-AIA version of 35 U.S.C. § 112.

where a claim uses the word "means" but does not specify a corresponding function. *Id.* at 1427-28. Section 112 also is not implicated where a claim recites a corresponding function, but the claim also recites sufficient structure, material, or acts to perform entirely the recited function. *Id.*

Claim 1 recites "an editor for displaying the retrieved source code and providing a *means for a user to edit* the retrieved source code" (emphasis added). SAS does not propose, specifically, a construction for this limitation. ComplementSoft asserts that this language is not a statutory means-plus-function clause because it "provides further definition for the functionality of the editor." Prelim. Resp. 11. ComplementSoft's argument appears to be that the recited editor provides sufficient structure to perform entirely the recited function—editing the retrieved source code—and, therefore, this limitation does not implicate section 112. This is consistent with ComplementSoft's proposed interpretation of the claim term "editor" as summarized above. On this record, we conclude that ComplementSoft's argument is reasonable, and do not interpret the phrase "means for a user to edit" to be a means-plus-function limitation.

Claim 11 depends from claim 1 and further recites "a *means for allowing* the source code to be executed both locally and remotely" (emphasis added). Neither party proposes an interpretation for this limitation. Because claim 11 uses the words "means for" modified by functional language and the limitation is not modified by any structure recited in the claim to perform the claimed function—allowing source code to be executed both locally and remotely—we

interpret this limitation to be a means-plus-function limitation. As discussed in more detail below, SAS did not meet its burden to identify how claim 11 is to be construed. *See* 37 C.F.R. § 42.104(b)(3). Specifically, SAS did not address the corresponding structure in the Specification for the means-plus-function limitation.

II. ANALYSIS

A. Claims 11-16

SAS has the burden to establish a reasonable likelihood of prevailing on its assertion that claim 11, and those claims that depend from claim 11—claims 12-16—are unpatentable over the asserted prior art. An essential part of that showing is identifying how each challenged claim is to be construed. 37 C.F.R. § 42.104(b)(3). Specifically, the rules require that "[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation[,] . . . the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each function." *Id.* As discussed above, SAS does not identify what structure in the Specification it believes corresponds to the means-plus-function limitation of claim 11. This failure is fatal to SAS's challenge of claims that include that limitation. Indeed, SAS's discussion of the asserted prior art (Coad and Antis) in relation to claim 11, as well as the analysis of Dr. Roussopoulos, does not address any corresponding structure in the Specification of the '936 patent. *See* Pet. 47-48 (citing Ex. 1015, ¶¶ 191-95). SAS's analysis, therefore, is insufficient to show that the prior art teaches the means-plus-function limitation

of claim 11. Thus, we decline to institute *inter partes* review on any proposed ground for claims 11-16.

B. Coad

1. Overview of Coad

Coad discloses a software development tool that allows a developer to view and modify simultaneously textual and graphical displays of source code regardless of the programming language in which the code is written. Ex. 1006, Abstract, col. 4, ll. 38-41. In the Background of the Invention, Coad describes conventional software development tools that allow the user to view Unified Modeling Language (UML)—a graphical representation or model using object oriented design—and source code at the same time. *Id.* at col. 1, l. 47 – col. 2, l. 22. Coad lists several disadvantages of these prior art systems, including that the files containing the source code and UML are not synchronized and that the tools work with only a single programming language. *Id.* at col. 2, ll. 22-36. "Thus, a tool **100** that is designed for Java™ programs cannot be utilized to develop a program in C++." *Id.* at col. 2, ll. 36-40.

Coad describes using the software development tool to: (1) open a file that contains existing source code or create a file in which source code will be developed (col. 15, ll. 60-64); (2) modify existing source code using an incremental code editor (ICE) (col. 4, ll. 54-58); (3) view several models of the source code using static, dynamic, and functional diagrams (col. 16, l. 58 – col. 17 l. 32); (4) obtain templates for the current programming language (col. 16, ll. 4-9); and (5) convert source code into the language-neutral

representation for viewing and vice versa using a parser layer (col. 5, ll. 50-55; col. 16, ll. 4-16).

2. Anticipation of Claim 1

SAS asserts that Coad anticipates claim 1. Pet. 25-31. In particular, SAS asserts that Coad discloses the limitation of "source code programmed using one of a plurality of types of data manipulation languages" because it discusses the use of "a plurality of types of programming languages," including C++ and Java. Ex. 1006, Abstract; col. 16, ll. 1-4. SAS also provides the testimony of Dr. Nick Roussopoulos stating that Java and C++ "had functions and structures through the use of/embedding of SQL statements that allowed the programming language to access data, such as to retrieve, insert, delete, or modify data in a database." Ex. 1015, ¶ 49. Dr. Roussopoulos testified that "a well-known product (Oracle) allowed a Java program to use SQL to retrieve data query results." *Id.* at ¶ 50. Dr. Roussopoulos, however, did not testify that all versions of C++ or Java included data manipulation functionality or that Coad's disclosure necessarily included data manipulation languages.

ComplementSoft responds that Coad does not meet its burden of showing anticipation of the required data manipulation language limitation by showing that Coad either explicitly or inherently discloses the use of data manipulation languages. Prelim. Resp. 27. We agree with ComplementSoft. Coad does not explicitly disclose that any of the programming languages referred to in the specification include data manipulation capabilities. Further, SAS does not meet its burden to prove inherency by showing that such capability is inherent in Coad's disclosure. Therefore, we are not persuaded that SAS has shown

a reasonable likelihood of prevailing in its assertion that claim 1 is anticipated by Coad.

3. Obviousness of Claim 1 over Coad, Oracle Primer, and Oracle8 Primer

SAS asserts that claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer. SAS relies on the Oracle documents for describing the use of SQL within Java and C++ and thus disclosing the data manipulation language limitation. Pet. 31-32 (citing Ex. 1015, ¶¶ 111-115). SAS points to Figures 11-17 of Coad as depicting aspects of the view for displaying graphical representations of flows in source code. Pet. 29-30. In addition, SAS asserts, and ComplementSoft does not dispute, that in the related district court litigation, ComplementSoft conceded that Coad discloses the "editor" limitation. Pet. 27 (citing Ex. 1016 (ComplementSoft's Response to SAS's Invalidity Contentions) at 18).

ComplementSoft argues that the asserted combination of references does not meet the required "graphical displays of flows"[5] limitation. Prelim. Resp. 28. According to ComplementSoft, the focus in Coad on object-oriented languages, and an incompatibility of the treatment of data between object-oriented languages and relational databases, means that the graphical representations of flows in Coad are incompatible with those claimed in the '936 patent. Prelim. Resp. 28-32. We are not persuaded by this argument. Figure 14 of Coad, pointed to by SAS (Pet. 28-30), "displays a sequence diagram of source code."

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[5] Because none of the claims include this particular language, we assume that ComplementSoft is referring to the limitation "graphical representations of flows."

Ex. 1006, col. 4, ll. 16-18. As described in Coad, in a sequence diagram, "the vertical dimension represents time" and the diagram depicts "the time ordering of messages along the vertical axis" representing "an interaction ... to effect a desired operation or result." *Id.* at col. 17, ll. 1-15. Figure 14, therefore, depicts a step-by-step progression through the source code. *See id.* at Fig. 14. More specifically, Figure 14 depicts the source code program's path of control from one step to another through the program—a program flow diagram. Thus, Coad discloses "graphical representations of flows" as we interpret the term.

ComplementSoft also argues that the Oracle Primers are non-analogous art to Coad. Prelim. Resp. 33. According to ComplementSoft, Coad's field of endeavor is IDEs and that of the Oracle Primers is introductory texts for SQL programming of Oracle. *Id.* ComplementSoft asserts that these fields are not analogous. *Id.* ComplementSoft adds that the two references also do not relate to the same problem of improving IDEs. *Id.* SAS, however, asserts that all three references are directed to computer programming, generally, and to the Java and C++ programming languages, specifically. Pet. 25. We agree with SAS that the references have similar purposes and overlapping teachings and all relate to software development using Java and C++. We also find reasonable SAS's rationale that a person of ordinary skill would have combined the teachings of these references in order to enhance the utility of the programming environment to include data manipulation. *See* Pet. 25.

We are persuaded that SAS has shown a reasonable likelihood of prevailing in its assertion

that claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer.

4. Previous Office Consideration of Coad

Finally, we note that Coad was applied as a prior art reference during prosecution of the '936 patent. *See, e.g.*, Ex. 1002.[6] The Oracle Primers—and the specific combination of Coad and the Oracle Primers asserted by SAS—however, were not considered. While we are mindful of the burden on ComplementSoft and the Office in analyzing previously considered prior art, substantially the same prior art and arguments were not before the Office previously. *See* 35 U.S.C. § 325(d). Moreover, for the reasons explained above, we conclude that SAS's arguments based on the combination of Coad and the Oracle Primers have merit.

C. Antis

1. Overview of Antis

Antis relates to visually displaying structural characteristics of a large database for development purposes. Ex. 1005, Abstract. Antis describes a long felt need for a tool to display the characteristics of a database without semantic information such that explicit and implicit data structures can readily be observed to facilitate use, development, and maintenance of large databases. *Id.* at col. 2, ll. 25-29. Antis solves this problem by displaying statistics and characteristics of an entire relational database in one overall view with semantic information separated out and shown in additional views that interactively are

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[6] This exhibit is not marked with individual page numbers, which is a violation of 37 C.F.R. § 42.63(d)(2)(i).

linked to the overall view and to each other. *Id.* at ll. 31-39.

Antis describes several specific views, including: (1) an "over view," the highest view level of the large relational database (col. 4, ll. 1-3); (2) a "specification view," a view of the actual specification(s) of the database in the database description language or languages (col. 5, ll. 4-8); (3) an "associations view" showing associations between a selected relation and other relations of the database through queries and other supported relational database management system (RDBMS) mechanisms (col. 5, ll. 32-36); (4) a "path view" presenting all of the shortest paths connecting any two selected relations (col. 6, ll. 43-47); (5) a "code view" that displays the application source code that uses the currently selected relation (col. 7, ll. 31-35); (6) a "layout view" showing the physical layout in memory of a tuple of a relation as well as the relative sizes of attributes of the relation (col. 8, ll. 5-9); and (7) a "domain view" that shows the domains used by a given relation and that is useful to the user for exploring how domains are used and shared among relations (col. 8, ll. 22-25).

2. Anticipation of Claims 1-3 and 5

SAS asserts that Antis anticipates claims 1-3 and 5. Pet. 32-41. Specifically, SAS asserts that the "code view" of Antis is used to edit retrieved source code. Pet. 34-35 (citing Ex. 1005, Fig. 12; col. 8, 63-66). According to SAS, "Antis discloses that changes made in any of the disclosed views (*e.g.*, edits to the source code made in the expanded code view of a definition of a new object) cause corresponding changes in the other views." Pet. 35 (citing Ex. 1005, col. 9, ll. 17-28).

ComplementSoft argues that Antis fails to disclose the claimed "editor" because Antis does not disclose the capability of modifying code within files. Instead, the language relied upon by SAS discloses only that the expanded code view is used to view code, not actually change that code. ComplementSoft points out that although Antis discloses that a "change" in any one view will cause corresponding "changes" in other views, this does not mean necessarily that the underlying source code is changed, but instead could simply mean that what is shown in the view could change. Prelim. Resp. 34.

We agree with ComplementSoft. SAS does not point to any language in Antis stating explicitly that any underlying files are ever changed or that the computer system described is used for anything other than viewing the source code of the application. Consistent with this interpretation of Antis as a system for visually displaying a static view, the specification describes user inputs as "cursor touches" or "mouse button clicks." Ex. 1005, col. 9, ll. 30-35. For example, Antis states that the user can use the keyboard and mouse to "examine the results in more detail, or call up other linked displays to obtain more information" (col. 3, ll. 58-60), and "touching any code box with a cursor causes that box to be highlighted and its designation to be displayed" and "[c]licking the mouse button on a code box highlights in the over view all relations that use the corresponding unit of code" (col. 7, ll. 46-54). Antis does not, however, describe editing or modifying underlying source code files.

Thus, we agree with ComplementSoft that SAS has not shown a reasonable likelihood of prevailing in its

assertion that claims 1-3 and 5, all of which require an editor, are anticipated by Antis.

3. Obviousness of Claims 1-3, 5, 6, 8, and 10 over Antis and Coad

SAS asserts that claims 1-3, 5, 6, 8, and 10 are obvious over Antis combined with Coad. Pet. 41-52. SAS points to Coad as disclosing an incremental code editor for displaying and editing retrieved source code. Pet. 41 (citing Ex. 1006, col. 4, ll. 54-60). ComplementSoft argues that incorporating the editor of Coad into Antis is not possible because Antis does not actually manipulate data. Prelim. Resp. 37. This argument is not persuasive. "It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements." *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (en banc) (noting that the criterion for obviousness is not whether the references can be physically combined, but whether the claimed invention is rendered obvious by the teachings of the prior art as a whole)).

ComplementSoft also argues that neither reference on its own, nor the combination of the two references, teaches "graphical representations of flows" as required by the challenged claims. Prelim. Resp. 36-38. As discussed above, we are persuaded that Coad discloses this limitation. SAS explains that a person of ordinary skill in the art would have had a reason to combine Antis and Coad because they are both directed to software development tools that provide visual representations of source code. Pet. 18. The combination of the Coad with Antis would have allowed for easier source code debugging and a more

accurate code view display according to SAS. *Id.* (citing Ex. 1015, ¶¶ 164-67). We are persuaded that this rationale is reasonable.

In summary, we have reviewed SAS's arguments in relation to each of the claims 1, 3, 5, 6, 8, and 10 and find that there is a reasonable likelihood that SAS will prevail in its challenge that these claims are obvious over a combination of Antis and Coad.

Claim 2 depends from claim 1 and adds the additional limitation that "the graphical representations of flows depict data flows." As discussed above, we are persuaded that Figure 14 of Coad depicts the source code program's path of control from one step to another through the program—a program flow diagram. ComplementSoft argues that neither Antis nor Coad nor the combination of the two references discloses a "graphical representation" of a "data flow." Prelim. Resp. 38-40.

We agree with ComplementSoft. SAS points to the code view of Antis as disclosing this limitation because "the code view provides a visualization of data flows in the retrieved source by providing a visual representation of which pieces of source code access which data in the relational database." Pet. 39 (citing Ex. 1005, col. 7, ll. 31-45). We are not persuaded that this is equivalent to a depiction of a map of the path of data through the executing source code. SAS also points to Coad as disclosing this limitation, generally pointing to a description of all views of Coad. Pet. 43-44 (citing Ex. 1006, col. 16, l. 57 – col. 17, l. 47). It is unclear exactly which view SAS equates to the claimed "graphical representation" of a "data flow." Moreover, it is not clear on its face

that Coad discloses this limitation as claimed. SAS has failed to demonstrate a reasonable likelihood that it would prevail on a challenge of claim 2 based on obviousness over Antis and Coad.

4. Obviousness of Claim 4 over Antis, Coad, and Burkwald

Claim 4 depends from claim 1 and adds the limitation that "the graphical representations of data flows are expandable and collapsible." SAS relies on Burkwald—a patent directed to a "system for visually representing modification information about a[] characteristic-dependent information processing system"—as disclosing this limitation. *See* Pet. 52 (citing Ex. 1007, col. 14, l. 43 – col. 15, l. 4); Ex. 1007, Title. SAS explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 19. Burkwald's teaching of expanding and collapsing graphical representations of flows would have provided a developer with flexibility in the amount of detail shown in the view according to SAS. *Id.* at 19-20. ComplementSoft does not address this proposed ground of unpatentability.

We are persuaded that there is a reasonable likelihood that SAS will prevail in its challenge that claim 4 is obvious over a combination of Antis, Coad, and Burkwald.

5. Obviousness of Claim 7 over Antis, Coad, and Eick

Claim 7 depends from claim 6 and adds the limitation that "the document manager comprises a security layer for managing secure connections with

the one or more remote computers." SAS relies on Eick—a patent directed to a "system and method for interactive visualization, analysis and control of a dynamic database"—as disclosing this limitation. *See* Pet. 53 (citing Ex. 1008, col. 4, ll. 19-27); Ex. 1008, Title. SAS explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to visual representations of source code and data structures. Pet. 21. Moreover, Eick's teaching of a security layer for managing secure connections with remote computers would allow the systems of Antis and Coad to be distributed to one or more locations without a substantial security risk according to SAS. *Id.* at 21-22. ComplementSoft does not address this proposed ground of unpatentability.

We are persuaded that there is a reasonable likelihood that SAS will prevail in its challenge that claim 7 is obvious over a combination of Antis, Coad, and Eick.

6. Obviousness of Claim 9 over Antis, Coad, and Building Applications

Claim 9 depends from claim 8 and adds the limitation that "the template manager is adapted to automatically correct segments of the source code." SAS relies on Building Applications—a book including information about Microsoft Access 97 software—as disclosing this limitation. Pet. 54-55 (citing Ex. 1011, pp. 52-54). SAS explains that a person of ordinary skill in the art would have had a reason to combine the three references because they are all related to software development tools that provide visual representations of source code. Pet. 23. Building Applications's teaching of automatically

correcting segments of source code determined to have errors would simplify the debugging of source code in Antis and Coad according to SAS. *Id.* at 23-24. ComplementSoft does not address this proposed ground of unpatentability.

We are persuaded that there is a reasonable likelihood that SAS will prevail in its challenge that claim 9 is obvious over a combination of Antis, Coad, and Building Applications.

III. CONCLUSION

We institute an *inter partes* review of claims 1 and 3-10 based on the following grounds under 35 U.S.C. § 103(a): (1) claim 1 is obvious over Coad combined with Oracle Primer and Oracle8 Primer; (2) claims 1, 3, 5, 6, 8, and 10 are obvious over Antis combined with Coad; (3) claim 4 is obvious over Antis combined with Coad and Burkwald; (4) claim 7 is obvious over Antis combined with Coad and Eick; and (5) claim 9 is obvious over Antis combined with Coad and Building Applications.

We decline to institute *inter partes* review of (1) claims 2 or claims 11-16; (2) claim 1 based on anticipation by Coad; or (3) claims 1, 3, or 5 based on anticipation by Antis.

IV. ORDER

For the reasons given, it is

ORDERED that the Petition is granted as to claims 1 and 3-10.

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '936 patent is hereby instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37

C.F.R. § 42.4, notice is hereby given of the institution of a trial.

FURTHER ORDERED that the trial is limited to the grounds and claims listed in the Conclusion. No other grounds are authorized as to these claims.

FURTHER ORDERED that an initial conference call with the Board is scheduled for 2 PM Eastern Time on September 12, 2013. The parties are directed to the Office Trial Practice Guide, 77 Fed. Reg. 48756, 48765-66 (Aug. 14, 2012) for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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Paper 40
Entered: November 10, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAS INSTITUTE, INC.,
Petitioner,

v.

COMPLEMENTSOFT, LLC,
Patent Owner.

Case IPR2013-00226
Patent 7,110,936 B2

Before KEVIN F. TURNER, JUSTIN T. ARBES, and JENNIFER S. BISK, *Administrative Patent Judges.*

BISK, *Administrative Patent Judge.*

DECISION
Request for Rehearing
37 C.F.R. § 42.71(d)

SUMMARY

SAS Institute, Inc. ("Petitioner") requests rehearing of the Board's Final Decision ("Dec."), dated August 6, 2014 (Paper 38). In the Final Decision, we determined that claims 1, 3, and 5–10 of U.S. Patent No. 7,110,936 B2 (Ex. 1001) (the "'936 patent") were unpatentable, but that Petitioner had not shown that claim 4 was unpatentable. Petitioner requests rehearing on two issues: (1) Petitioner's contention that we are required to conduct an *inter partes* review of "all claims of the '936 patent, including claims 2 and 11–16"; and (2) the proper interpretation of the claim term "data flows." Paper 39, 3 ("Req. Reh'g"). For the reasons that follow, Petitioner's request for rehearing is *denied*.

DISCUSSION

A party challenging a final written decision by way of a request for rehearing must identify specifically all matters the party believes the Board misapprehended or overlooked. 37 C.F.R. § 42.71(d). The challenging party bears the burden of showing that the decision should be modified. *Id.*

We are not persuaded by Petitioner's argument that we overlooked the contention that 35 U.S.C. § 318(a) requires that we address in the Final Decision the patentability of all claims challenged by Petitioner, including claims 2 and 11–16. Req. Reh'g 3–5. All claims at issue in this trial (claims 1 and 3–10) were addressed in the Final Decision. As stated in the Final Decision, trial was not instituted on claims 2 and 11–16, because Petitioner did not show a reasonable likelihood of prevailing on its challenges to those claims. Dec. 41. Accordingly, the

unpatentability of claims 2 and 11–16 was not at issue in this trial. Dec. 41.

We also are not persuaded by Petitioner's argument that we misapprehended the construction of the claim term "data flows." Req. Reh'g 5–15. Petitioner argues on rehearing that in the Decision to Institute, "the Board interpreted 'data flow' to mean 'a depiction of a map of the path of data through the executing source code." *Id.* at 6. Further, Petitioner asserts that "neither party challenged that interpretation during the IPR" and that the construction adopted in the Decision to Institute "is consistent with the broadest reasonable construction." *Id.* at 6, 12. This assertion is contrary to the argument in Petitioner's reply brief that "the 'executing' requirement for 'data flows' is improper, especially in view of the BRI [broadest reasonable interpretation] standard." Paper 24 ("Reply") 4; *see* Dec. 18. Thus, Petitioner *did* challenge the interpretation of "data flows" during the IPR.[1]

Moreover, we are not persuaded by Petitioner's assertion that the construction of "data flows" in the Final Decision was erroneous. Petitioner asserts that our interpretation of "data flows" results in claim 4 reciting "graphical representations of a graphical representation," which is "obviously repetitive." Req.

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[1] To the extent Petitioner contends that it was prejudiced by not being able to respond to the interpretation of "data flows" in the Final Decision, Petitioner had the opportunity in the Petition to argue its position on claim interpretation and explain why it believes the prior art teaches "data flows." *See, e.g.*, 37 C.F.R. § 42.104(b) (requiring a petition to explain "[h]ow the challenged claim is to be construed" and "[h]ow the construed claim is unpatentable").

Reh'g 11. Similarly, Petitioner asserts that there is a difference between a "data flow" and the depiction of a "data flow." We agree that the Final Decision could have further defined "data flow diagrams" and "graphical representations of data flows" to be equivalent. However, we are not persuaded that our interpretation of "data flows" was erroneous.

As discussed in the Final Decision, the '936 patent defines "data flow diagrams" as "comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program." Dec. 18 (citing Ex. 1001, 2:40-42). The '936 patent does not explicitly define the term "data flows," or "graphical representations of data flows," but uses the term "data flows" interchangeably as meaning both the flow of data ("data flows") and visualization of the flow of data ("data flow diagrams" and "graphical representations of flows"). *See, e.g., id.* at 4:12-13 ("FIG. 17 is an exemplary screen shot *depicting a data flow* for a selected file.") (emphasis added), 16:3-5 ("By assigning meanings and attributes to tokens 144, the document view engine 200 allows the *visualizer to create* program flows 122 and *data flows* 124.") (emphasis added). Petitioner appears to agree on this point because its own proposed construction of the term "data flows" conflates the flow of the data with the visualization of that flow— "*a depiction of a map* of the path of data through the executing source code." Req. Reh'g 6, 12 (emphasis added).

Petitioner asserts that the '936 patent reasonably supports a reading that "data flows" may be illustrated with more general "program flow icons" that do not necessarily depict data processing steps. *Id.* at 9–10 (citing Ex. 1001, Abstract, 8:8–14, 16:12–

30). "Program flow icons" are used in the '936 patent to represent both program "code sections" and "data blocks." *See, e.g.*, Ex. 1001, 8:8–14 ("For viewing the program flow and data flow of a selected program . . . the visualizer 120 . . . displays the code for the selected program, *representing each program and data block with a program flow icon 126.*") (emphasis added), 15:63–67 ("Using information provided by the parser layer 140, the document view engine can . . . represent the procedures and data blocks as program flow icons 126."). It does not follow that visualization of a data flow may be shown by program code sections that are unrelated to data processing. Instead, the '936 patent consistently differentiates the visualization of program flows and data flows; the visualization of program flows as "program block icons and arrows to depict the code's program flow" and the visualization of data flows as "icons depicting data processing steps and arrows to depict the flow of the data through the program." *Id.* at 2:38–42, 8:8–14, 16:6–30. We are not persuaded by Petitioner's arguments to the contrary. *See* Req. Reh'g 5–15. Thus, we are not persuaded that our interpretation requiring the visualization of "data flows" to include "icons depicting data processing steps and arrows to depict the movement of data through source code" was erroneous.

CONCLUSION

We have reviewed and considered all arguments in Petitioner's request for rehearing and determine that Petitioner has not carried its burden of demonstrating that the Board misapprehended or overlooked any matters in rendering the Final

Decision. 37 C.F.R. § 42.71(d). The request for rehearing is *denied*.

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APPENDIX F

Public Law 112-29 provides in relevant part:

* * *

SEC. 6. POST-GRANT REVIEW PROCEEDINGS.

(a) INTER PARTES REVIEW.—Chapter 31 of title 35, United States Code, is amended to read as follows:

"CHAPTER 31—INTER PARTES REVIEW

"Sec.
"311. Inter partes review.
"312. Petitions.
"313. Preliminary response to petition.
"314. Institution of inter partes review.
"315. Relation to other proceedings or actions.
"316. Conduct of inter partes review.
"317. Settlement.
"318. Decision of the Board.
"319. Appeal.

"§ 311. Inter partes review

"(a) IN GENERAL.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an inter partes review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the review.

"(b) SCOPE.—A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be

raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

"(c) FILING DEADLINE.—A petition for inter partes review shall be filed after the later of either—

"(1) the date that is 9 months after the grant of a patent or issuance of a reissue of a patent; or

"(2) if a post-grant review is instituted under chapter 32, the date of the termination of such post-grant review.

"§ 312. Petitions

"(a) REQUIREMENTS OF PETITION.—A petition filed under section 311 may be considered only if—

"(1) the petition is accompanied by payment of the fee established by the Director under section 311;

"(2) the petition identifies all real parties in interest;

"(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

"(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

"(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

"(4) the petition provides such other information as the Director may require by regulation; and

"(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

"(b) PUBLIC AVAILABILITY.—As soon as practicable after the receipt of a petition under section 311, the Director shall make the petition available to the public.

"§ 313. Preliminary response to petition

"If an inter partes review petition is filed under section 311, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no inter partes review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

"§ 314. Institution of inter partes review

"(a) THRESHOLD.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

"(b) TIMING.—The Director shall determine whether to institute an inter partes review under this chapter pursuant to a petition filed under section 311 within 3 months after—

"(1) receiving a preliminary response to the petition under section 313; or

"(2) if no such preliminary response is filed, the last date on which such response may be filed.

"(c) NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

"(d) NO APPEAL.—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable.

"§ 315. Relation to other proceedings or actions

"(a) INFRINGER'S CIVIL ACTION.—

"(1) INTER PARTES REVIEW BARRED BY CIVIL ACTION.—An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

"(2) STAY OF CIVIL ACTION.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter partes review of the patent, that civil action shall be automatically stayed until either—

"(A) the patent owner moves the court to lift the stay;

"(B) the patent owner files a civil action or counterclaim alleging that the petitioner or

real party in interest has infringed the patent; or

"(C) the petitioner or real party in interest moves the court to dismiss the civil action.

"(3) TREATMENT ON COUNTERCLAIM.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

"(b) PATENT OWNER'S ACTION.—An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

"(c) JOINDER.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

"(d) MULTIPLE PROCEEDINGS.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or

matter may proceed, including providing for stay, transfer, consolidation, or termination of any such matter or proceeding.

"(e) ESTOPPEL.—

"(1) PROCEEDINGS BEFORE THE OFFICE.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

"(2) CIVIL ACTIONS AND OTHER PROCEEDINGS.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

"§ 316. Conduct of inter partes review

"(a) REGULATIONS.—The Director shall prescribe regulations—

"(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or

document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

"(2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a);

"(3) establishing procedures for the submission of supplemental information after the petition is filed;

"(4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title;

"(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to—

"(A) the deposition of witnesses submitting affidavits or declarations; and

"(B) what is otherwise necessary in the interest of justice;

"(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnecessary delay or an unnecessary increase in the cost of the proceeding;

"(7) providing for protective orders governing the exchange and submission of confidential information;

"(8) providing for the filing by the patent owner of a response to the petition under section 313 after an inter partes review has been instituted,

and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

"(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

"(10) providing either party with the right to an oral hearing as part of the proceeding;

"(11) requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 315(c);

"(12) setting a time period for requesting joinder under section 315(c); and

"(13) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

"(b) CONSIDERATIONS.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the

integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

"(c) PATENT TRIAL AND APPEAL BOARD.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each inter partes review instituted under this chapter.

"(d) AMENDMENT OF THE PATENT.—

"(1) IN GENERAL.—During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

"(A) Cancel any challenged patent claim.

"(B) For each challenged claim, propose a reasonable number of substitute claims.

"(2) ADDITIONAL MOTIONS.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 317, or as permitted by regulations prescribed by the Director.

"(3) SCOPE OF CLAIMS.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

"(e) EVIDENTIARY STANDARDS.—In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

"§ 317. Settlement

"(a) IN GENERAL.—An inter partes review instituted under this chapter shall be terminated with respect

to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the inter partes review is terminated with respect to a petitioner under this section, no estoppel under section 315(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that inter partes review. If no petitioner remains in the inter partes review, the Office may terminate the review or proceed to a final written decision under section 318(a).

"(b) AGREEMENTS IN WRITING.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an inter partes review under this section shall be in writing and a true copy of such agreement or understanding shall be filed in the Office before the termination of the inter partes review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

"§ 318. Decision of the Board

"(a) FINAL WRITTEN DECISION.—If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the

patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

"(b) CERTIFICATE.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

"(c) INTERVENING RIGHTS.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following an inter partes review under this chapter shall have the same effect as that specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

"(d) DATA ON LENGTH OF REVIEW.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each inter partes review.

"§ 319. Appeal

"A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision pursuant to sections

141 through 144. Any party to the inter partes review shall have the right to be a party to the appeal.".

(b) CONFORMING AMENDMENT.—The table of chapters for part III of title 35, United States Code, is amended by striking the item relating to chapter 31 and inserting the following:

"31. Inter Partes Review.....311"

(c) REGULATIONS AND EFFECTIVE DATE.—

(1) REGULATIONS.—The Director, shall not later than the date that is 1 year after the date of the enactment of this Act, issue regulations to carry out chapter 31 of title 35, United States Code, as amended by subsection (a) of this section.

(2) APPLICABILITY.—

(A) IN GENERAL.—The amendments made by subsection (a) shall take effect upon the expiration of the 1-year period beginning on the date of the enactment of this Act and shall apply to any patent issued before, on, or after that effective date.

(B) GRADUATED IMPLEMENTATION.—The Director may impose a limit on the number of inter partes reviews that may be instituted under chapter 31 of title 35, United States Code, during each of the first 4 1-year periods in which the amendments made by subsection (a) are in effect,if such number in each year equals or exceeds the number of inter partes reexaminations that are ordered under chapter 31 of title 35, United States Code, in the last fiscal year

ending before the effective date of the amendments made by subsection (a).

(3) TRANSITION.—

(A) IN GENERAL.—Chapter 31 of title 35, United States Code, is amended—

(i) in section 312—

(I) in subsection (a)—

(aa) in the first sentence, by striking "a substantial new question of patentability affecting any claim of the patent concerned is raised by the request," and inserting "the information presented in the request shows that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request,"; and

(bb) in the second sentence, by striking "The existence of a substantial new question of patentability" and inserting "A showing that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request"; and

(II) in subsection (c), in the second sentence, by striking "no substantial new question of patentability has been raised," and inserting "the showing required by subsection (a) has not been made,"; and

(ii) in section 313, by striking "a substantial new question of patentability affecting a claim of the patent is raised" and inserting "it has been shown that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request".

(B) APPLICATION.—The amendments made by this paragraph—

(i) shall take effect on the date of the enactment of this Act; and

(ii) shall apply to requests for inter partes reexamination that are filed on or after such date of enactment, but before the effective date set forth in paragraph (2)(A) of the subsection.

(C) CONTINUED APPLICABILITY OF PRIOR PROVISIONS.—The provisions of chapter 31 of title 35, United States Code, as amended by this paragraph, shall continue to apply to requests for inter partes reexamination that are filed before the effective date set forth in paragraph (2)(A) as if subsection (a) had not been enacted.

* * *

RECORD AND BRIEFS

FILED
APR - 5 2017
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SUPREME COURT, U.S.

No. 16-969

In the Supreme Court of the United States

SAS INSTITUTE INC., PETITIONER

v.

MICHELLE K. LEE, DIRECTOR, UNITED STATES PATENT AND TRADEMARK OFFICE, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT IN OPPOSITION

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QUESTION PRESENTED

Section 318(a) of the Patent Act provides that, if the Patent and Trademark Office (PTO) institutes an inter partes review, the agency's Patent Trial and Appeal Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added" during the proceeding. 35 U.S.C. 318(a). The question presented is as follows:

Whether, in a case in which the PTO agrees to review the patentability of only a subset of the claims in a patent, the Board may address in its final written decision only the patentability of those claims the agency agreed to review.

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In the Supreme Court of the United States

No. 16-969

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MICHELLE K. LEE, DIRECTOR, UNITED STATES PATENT AND TRADEMARK OFFICE, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT IN OPPOSITION

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 1a-40a) is reported at 825 F.3d 1341. The order of the court of appeals denying rehearing (Pet. App. 87a-102a) is reported at 842 F.3d 1223. The opinion of the Patent Trial and Appeal Board on institution of inter partes review (Pet. App. 103a-128a) is not published but is available at 2013 WL 8595939. The final written decision of the Patent Trial and Appeal Board (Pet. App. 41a-86a) is not published but is available at 2014 WL 3885937.

JURISDICTION

The judgment of the court of appeals was entered on June 10, 2016. A petition for rehearing was denied on November 7, 2016 (Pet. App. 87a-102a). The petition for a writ of certiorari was filed on January 31, 2017. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

1. a. The Patent Act of 1952, 35 U.S.C. 1 *et seq.*, charges the U.S. Patent and Trademark Office (PTO) with examining applications for patents, and it directs the PTO to issue a patent if the statutory criteria are satisfied. 35 U.S.C. 131. Federal law also has long permitted the PTO to reexamine the patentability of claims in patents it has previously issued. See *Cuozzo Speed Techs., LLC* v. *Lee*, 136 S. Ct. 2131, 2137 (2016). In 1980, for example, Congress empowered the PTO to conduct ex parte reexamination of "any claim of [a] patent" previously issued if the PTO concludes that prior art raises a "substantial new question of patentability." Act of Dec. 12, 1980, Pub. L. No. 96-517, § 1, 94 Stat. 3015 (35 U.S.C. 303(a)); see 35 U.S.C. 301-302, 304; *Cuozzo Speed Techs.*, 136 S. Ct. at 2137.

In the Leahy-Smith America Invents Act (AIA or the Act), Pub. L. No. 112-29, 125 Stat. 284, Congress created new processes through which the PTO can reconsider the patentability of claims in issued patents. One such procedure, inter partes review, allows a challenger to contest the patentability of disputed claims on specified grounds in an administrative proceeding before the agency's Patent Trial and Appeal Board (the Board). See generally 35 U.S.C. 311 *et seq.*; *Cuozzo Speed Techs.*, 136 S. Ct. at 2137-2138.[1]

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[1] The AIA introduced two additional mechanisms for reconsidering the patentability of claims in issued patents: "post-grant review" and "covered business method" review. 35 U.S.C. 321 (post-grant review); AIA § 18, 125 Stat. 329-331 (covered-business-method review). Though they are not directly at issue in this case, those review mechanisms have been implemented through procedures analogous to those challenged here, and petitioner's argument implicates those mechanisms as well. Pet. 24 (acknowledging that the challenge here would extend to those forms of review).

A party seeking to contest a patent's validity may request inter partes review by filing with the PTO a petition asking the agency to "cancel as unpatentable 1 or more claims" of an issued patent on certain enumerated grounds. 35 U.S.C. 311(b). The petition must identify, "in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." 35 U.S.C. 312(a)(3). When a petition is filed, the PTO must make a "[t]hreshold" determination as to whether to "authorize an inter partes review to be instituted," and it must provide notice of its decision to the petitioner, the patent owner, and the public. 35 U.S.C. 314(a) and (c). The Act prohibits the PTO from instituting review unless it determines that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. 314(a). The PTO's decision whether to institute inter partes review is "final and nonappealable." 35 U.S.C. 314(d); see *Cuozzo Speed Techs.*, 136 S. Ct. at 2142.

If the PTO elects to institute inter partes review, the Board then conducts a trial-like proceeding to determine the patentability of the claims at issue. See 35 U.S.C. 316; 37 C.F.R. 42.1 *et seq.* At the conclusion of that proceeding (unless the matter has been dismissed), the Act directs the Board to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added" to the patent by amendment while the inter partes review proceeding is ongoing. 35 U.S.C. 318(a). A party aggrieved by the Board's final written decision may appeal that decision to the Federal Circuit. 35 U.S.C. 141(c), 319.

The Act prescribes a timetable for the PTO's consideration of requests for inter partes review. The PTO must determine whether to institute inter partes review within three months after the completion of briefing on the petition. 35 U.S.C. 314(b). If the PTO institutes review, the Board generally must issue its final written decision within one year. 35 U.S.C. 316(a)(11).

The Act also addresses the relationships between inter partes review proceedings concerning a particular patent claim and other proceedings involving the same claim or patent. 35 U.S.C. 315. The PTO may not grant a request to institute inter partes review if the request is submitted by a party that has previously filed a civil action challenging a claim of the same patent. 35 U.S.C. 315(a)(1). If the PTO grants inter partes review of a claim and issues a final decision, the petitioner thereafter is estopped from "request[ing] or maintain[ing] a proceeding" before the PTO "with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. 315(e)(1). The petitioner likewise is barred from "assert[ing] either in a civil action" or in proceedings before the International Trade Commission "that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. 315(e)(2).

b. To implement the AIA's new administrative-review scheme, Congress granted the PTO new rulemaking authority. See 35 U.S.C. 316(a); see also *Cuozzo Speed Techs.*, 136 S. Ct. at 2142. Congress authorized the PTO, *inter alia*, to prescribe regulations "setting forth the standards for the showing of sufficient grounds to institute a review," and regulations "establishing and governing inter partes review" and "the

relationship of such review to other proceedings." 35 U.S.C. 316(a)(2) and (4). Congress further specified that, in exercising its rulemaking authority under the AIA, the PTO should take into account the need to ensure "efficient administration of the Office, and the ability of the Office to timely complete [inter partes] proceedings." 35 U.S.C. 316(b).

The PTO has exercised that authority and, after notice and comment, has adopted rules designed to "secure the just, speedy, and inexpensive resolution of every proceeding" before the Board. 37 C.F.R. 42.1(b). One such regulation provides that the Board may streamline an inter partes review by instituting review as to only "some of the challenged claims" identified in a petition for review and on only "some of the grounds of unpatentability asserted for each claim." 37 C.F.R. 42.108(a). This enables the Board to "streamline the issues for final decision by authorizing the trial to proceed only on the challenged claims for which the threshold standards for the proceeding have been met." 77 Fed. Reg. 48,765 (Aug. 14, 2012).

In adopting that "partial institution" rule, the PTO considered comments suggesting that the agency should institute review as to all of the claims cited in the petition if it concludes that any challenged claim warrants review. 77 Fed. Reg. 48,702-48,703 (Aug. 14, 2012). The PTO declined to adopt that suggestion. The agency explained that partial institution is "consistent with the statute," and that limiting the Board's review to the claims for which the statutory review threshold has been met "streamlines the proceeding and aids in the efficient operation of the Office and the ability of the Office to complete the proceeding within the one-year timeframe." *Id.* at 48,703. The PTO further explained

that limiting the scope of review would be fairer to patent holders, who should "not be burdened with responding to non-meritorious grounds that fail to meet the initial thresholds." *Ibid.*

In cases where review is instituted as to only some of the claims identified in a petition, the Board's practice is to issue a final written decision only as to those claims for which review was instituted.

2. a. This case arises from an inter partes review petition filed by petitioner SAS Institute, Inc., challenging the validity of claims in a patent issued to respondent ComplementSoft LLC. In its inter partes review petition, petitioner asked the PTO to review claims 1-16 of that patent. Pet. App. 104a. The Board agreed to institute review as to claims 1 and 3-10 on certain grounds, but it declined to institute review as to those claims on other grounds, and it declined review altogether as to the remaining claims in the patent (claims 2 and 11-16). *Id.* at 105a-106a, 127a. The Board explained that petitioner had not "establish[ed] a reasonable likelihood of" showing that claims 2 and 11-16 are unpatentable. *Id.* at 115a-116a; see *id.* at 125a.

After completing a trial on claims 1 and 3-10, the Board issued a final written decision. Pet. App. 41a-86a. The Board concluded that petitioner had shown that claims 1, 3, and 5-10 were unpatentable because they were obvious over various prior art, and it canceled those claims. *Id.* at 43a, 84a-85a. The Board further concluded, however, that petitioner had not shown that claim 4 is unpatentable. *Ibid.* The Board's final decision did not address the merits of the patent's remaining claims. The Board explained that it had "declined to institute an *inter partes* review" of those other claims

because petitioner had not "shown that there was a reasonable likelihood of prevailing on its challenges" to those claims, and those claims accordingly were "not at issue in [the] trial." *Id.* at 84a & n.3; see also *id.* at 73a n.2.

Petitioner sought rehearing of the Board's decision, arguing *inter alia* that the Board was required to issue a final written decision as to all of the claims cited in the original petition, not just those for which the Board had instituted inter partes review. Pet. App. 130a. The Board denied rehearing, explaining in relevant part that its final decision had correctly addressed only those claims that were at issue in the instituted proceeding. *Id.* at 130a-131a.

The parties filed cross-appeals in the Federal Circuit. Pet. App. 2a. The PTO intervened to defend the discretion of the Board to institute review as to only a subset of the claims identified in a petition and to issue a final written decision only as to those claims for which review was instituted.

b. While these appeals were pending, the Federal Circuit decided *Synopsys, Inc.* v. *Mentor Graphics Corp.*, 814 F.3d 1309 (2016). The court in *Synopsys* held in pertinent part that there is "no statutory requirement that the Board's final decision address every claim raised in a petition for inter partes review." *Id.* at 1316-1317.[2] Analyzing the text and structure of the Act, the *Synopsys* court concluded that "the claims that the Board must address in the final decision are different than the claims raised in the petition." *Id.* at 1315. The court further explained that "the statute would make very little sense if it required the Board to issue final

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[2] Petitioner filed a brief as amicus curiae in *Synopsys*. Pet. App. 21a n.5.

decisions addressing patent claims for which inter partes review had not been initiated," and that the statute should not be construed in a way "that would require the Board to issue a final determination on validity of patent claims without the benefit" of full merits proceedings. *Ibid.*

The *Synopsys* Court also rejected the related argument that the Board was precluded from instituting review as to only a subset of the claims asserted in the petition. The court found that "the statute is quite clear that the PTO can choose whether to institute inter partes review on a claim-by-claim basis." 814 F.3d at 1315. The court further explained that, "if there were any doubt about the Board's authority and the statute were deemed ambiguous," the PTO's regulation allowing for partial institution, 37 C.F.R. 42.108, would be entitled to deference under *Chevron U.S.A. Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). *Synopsys*, 814 F.3d at 1316.

Judge Newman dissented. She would have held that the PTO may not grant review as to "only some" of the claims challenged in a petition. *Synopsys*, 814 F.3d at 1332. No party sought further review in *Synopsys*.

c. In the decision below, the court of appeals relied on *Synopsys* and rejected petitioner's argument that the Board was required to address in its final decision all of the claims identified in the petition requesting inter partes review. Pet. App. 20a-21a. Judge Newman, who was also a member of the panel below, again dissented in relevant part. *Id.* at 23a-40a.

Petitioner sought rehearing en banc, which the court of appeals denied. Pet. App. 88a. Judge Newman dissented from the denial of rehearing en banc. *Id.* at 90a-102a.

ARGUMENT

Petitioner contends that the Patent Trial and Appeal Board must issue a final written decision addressing the patentability of every claim identified in a petition for inter partes review, including claims whose patentability the agency declined to review in the instituted proceeding. The court of appeals correctly rejected that argument, and its ruling does not conflict with any decision of this Court. Further review is not warranted.

1. As an initial matter, this Court's review is not warranted because the court of appeals lacked jurisdiction to address a key predicate of petitioner's argument: that the PTO was required to institute review of every claim challenged in the petition for inter partes review.

The Patent Act states that the PTO's decision "whether to institute an inter partes review * * * shall be final and nonappealable." 35 U.S.C. 314(d). This Court confirmed last Term that Section 314(d) means what it says and that (with the possible exception of constitutional claims) a "contention that the Patent Office unlawfully initiated its agency review is not appealable." *Cuozzo Speed Techs., LLC* v. *Lee*, 136 S. Ct. 2131, 2139 (2016); see *id.* at 2142 ("[W]here a patent holder grounds its claim in a statute closely related to that decision to institute inter partes review, [Section] 314(d) bars judicial review."); see also Pet. 20-21 (acknowledging that "the institution decision is not ordinarily reviewable"). This judicial-review bar precludes not only interlocutory review of the PTO's decision to institute review at the time that decision is made, but also any challenge to the PTO's institution decision on review of the Board's final written decision. See *Cuozzo Speed Techs.*, 136 S. Ct. at 2140.

Petitioner's argument in this Court directly challenges the PTO's decision "whether to institute an inter partes review" of particular claims. 35 U.S.C. 314(d). Petitioner repeatedly asserts that the PTO erred in limiting its review to claims 1 and 3-10 of the patent and in declining to institute inter partes review as to the remaining claims identified in its petition (including claims 2 and 11-16). See Pet. 13-14 (arguing that the statute does not contemplate "that inter partes review will proceed on only a subset of the challenged claims"); Pet. 14 (asserting that "the partial-institution, partial-decision practice is contrary to the statute"); Pet. 15 ("Nothing in * * * the AIA, allows or anticipates a partial-institution practice."); Pet. 18 (criticizing the court of appeals for "allowing the PTO to institute inter partes review on a claim-by-claim basis") (citation and internal quotation marks omitted); Pet. 19 (criticizing "the Board's partial-institution, partial-decision regime"); Pet. 20 (noting criticism of "rule allowing for partial institution"). Section 314(d) precludes judicial review of such contentions, which assail the PTO's discretionary decision to institute review as to particular patent claims. See *Cuozzo Speed Techs.*, 136 S. Ct. at 2139-2142 (holding that Section 314(d) barred review of challenge to PTO's decision to institute inter partes review of two patent claims that challenger argued were not properly raised in the petition for review).

Petitioner cannot circumvent Section 314(d) by framing its argument as a challenge to the Board's final written decision, rather than as an attack on the institution decision. See Pet. i (framing the question presented as whether the Board's "final written decision" failed to conform to statutory requirements). Petitioner argues that the Board was required to address claims 2

and 11-16 in its final written decision *because* (in petitioner's view) the Board was required to institute inter partes review of those claims. That collateral attack on the PTO's institution decision is foreclosed by Section 314(d).[3]

2. In any event, the court of appeals correctly rejected petitioner's contention that the Board must address in its final written decision the patentability of every claim identified in the petition for inter partes review, including claims as to which the PTO declined to institute review in the first place.

a. The AIA permits the PTO to institute inter partes review as to some claims in a patent but not others.

i. As the court of appeals explained in *Synopsys, Inc.* v. *Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016), the AIA contemplates that inter partes review may proceed on some claims in a patent and not others. *Id.* at 1315. The AIA provisions that address institution of review speak in terms of individual claims within a patent. Those provisions make clear that the petitioner's challenges, the PTO's decision to institute review, and the Board's final decision are all claim-specific.

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[3] In *Synopsys, Inc.* v. *Mentor Graphics Corp.*, 814 F.3d 1309 (2016), the Federal Circuit concluded that Section 314(d) did not prevent the court from deciding whether the final written decision should have addressed claims for which the Board had previously declined to institute review. *Id.* at 1314. The court's willingness to address that question may reflect the fact that the appellant in *Synopsys* squarely argued that the Board must address all claims identified in the petition "regardless of whether the Board must institute on all claims." Resp. & Reply Br. at 30, *Synopsys*, *supra* (No. 14-1516). Here, by contrast, petitioner's entire argument appears to depend on its contention that the PTO erred by failing to institute review of claims 2 and 11-16 of respondent's patent.

Section 312 requires a petition for inter partes review to identify "in writing and with particularity, *each claim* challenged, the grounds on which the challenge to *each claim* is based, and the evidence that supports the grounds for the challenge to *each claim*." 35 U.S.C. 312(a)(3) (emphases added). That text establishes that the petitioner may choose to seek review of fewer than all of the patent's claims, and it indicates that the petitioner's challenge to each claim must be supported independently with legal argument and evidence.

Section 314 provides that, before "authoriz[ing] an inter partes review to be instituted," the PTO must conclude that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. 314(a). The Act thus explicitly requires claim-specific analysis at least to some extent: the PTO cannot institute review unless it analyzes at least one claim in a patent and determines that the petitioner has a reasonable likelihood of showing that the claim is unpatentable. The statute cannot reasonably be construed to forbid claim-by-claim analysis that it expressly compels.

Finally, Sections 315 and 318 establish that the end product of inter partes review proceedings is claim-specific. Section 318 provides that, if review is instituted (and unless the proceeding is dismissed), the Board must render a final decision "with respect to the patentability of any patent claim challenged by the petitioner." 35 U.S.C. 318(a). And Section 315(e) provides that, in any future litigation or administrative proceeding, the petitioner is estopped from challenging a particular claim as to which inter partes review was instituted on grounds that were or could have been raised during inter partes review. 35 U.S.C. 315(e).

Every relevant aspect of the inter partes review process is thus claim-specific. And nothing in the relevant AIA provisions suggests that Congress intended to require the PTO to institute review of every claim cited in a petition based on a petitioner's showing of a likelihood of success as to a single claim. Having established a gateway requirement for inter partes review—by forbidding the PTO from instituting any review unless it finds that at least one claim is reasonably likely to be found unpatentable—Congress would not likely have compelled the agency to conduct review of claims as to which the PTO had found the petitioner to have shown no reasonable prospect of success. And since the AIA gives the PTO generally unreviewable discretion to deny inter partes review altogether, and permits the petitioner to challenge fewer than all of the claims in a patent, it would be strange indeed for Congress to force the agency to an all-or-nothing choice between either (A) reviewing all of the patent claims the petitioner challenges or (B) reviewing none of them.

ii. Whether or not the construction of the AIA reflected in the PTO's notice-and-comment regulation represents the only plausible reading of the statute, it is at a minimum reasonable and therefore entitled to deference under *Chevron U.S.A. Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). See *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208, 218 & n.4 (2009). Congress has authorized the PTO to promulgate regulations "establishing and governing inter partes review" generally and "the standards for the showing of sufficient grounds to institute a review" in particular. 35 U.S.C. 316(a)(2) and (4). Exercising that authority, the PTO conducted notice-and-comment rulemaking and issued a regulation providing that inter

partes review may be instituted as to only "some" of the claims challenged in a petition. 37 C.F.R. 42.108(a).

That regulation falls squarely within the PTO's statutory authority and reflects a permissible reading of the AIA's text. See *Synopsys*, 814 F.3d at 1316. It also advances the purposes that Congress sought to achieve in the AIA. A statutory directive that the PTO must institute review on an all-or-nothing basis would undermine the requirement that the party seeking inter partes review identify "with particularity * * * the grounds on which the challenge to each claim is based," 35 U.S.C. 312(a)(3), because a sufficient showing as to one claim would be enough to secure review as to all others. Challengers would have an incentive to provide as little information as possible in order to prejudice the patent owner's ability to defend the patentability of all of the challenged claims during the instituted proceeding.

An all-or-nothing approach, moreover, would unfairly impact patent holders, who would be "burdened with responding to non-meritorious grounds that fail to meet the initial thresholds." 77 Fed. Reg. at 48,703. The PTO has construed the Patent Act to avoid burdening patentees with the need to provide arguments and evidence in support of claims whose patentability the PTO itself sees no reason to question. And, consistent with Congress's intent to ensure that inter partes reviews are completed expeditiously, the PTO's partial-institution practice "streamlines the proceeding and aids in the efficient operation of the Office and the ability of the Office to complete the proceeding within the one-year timeframe." *Ibid.*; see 35 U.S.C. 316(a)(11) (establishing the one-year timeframe). The PTO thus has sensibly concluded that the Board need not devote time and resources to reviewing and addressing the patentability

of claims as to which the PTO has already found that the petitioner has no reasonable likelihood of success.

b. Because the AIA allows the PTO to institute review on a partial basis, the Board need not and should not address in its final written decision any claims for which review was not instituted. "[T]he statute would make very little sense if it required the Board to issue final decisions addressing patent claims for which inter partes review had not been initiated." *Synopsys*, 814 F.3d at 1315. If the Board has not heard evidence or argument regarding claims, it would have no basis to rule on the patentability of those claims.

The text and structure of the AIA confirm this understanding. The Act provides: "*If an inter partes review is instituted* and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under [S]ection 316(d)." 35 U.S.C. 318(a) (emphasis added). As the italicized clause indicates, the scope of the Board's required written decision is bounded by the scope of the review that the PTO has elected to institute. See *Synopsys*, 814 F.3d at 1315 (noting that this "conditional phrase * * * strongly suggests that the 'challenged' claims referenced are the claims for which inter partes review was instituted").

Petitioner contends (Pet. 16) that Section 318(a)'s reference to "any patent claim challenged by the petitioner" encompasses all of "the patent claims that are challenged in the petition" for inter partes review. But because Section 318(a) addresses the final disposition of an inter partes review whose institution is governed by

a different statutory provision, that text is more naturally read to refer only to those claims that are challenged within the inter partes review itself—*i.e.*, those claims that the Board has previously agreed to review. That inference is reinforced by the fact that Section 318(a) directs the PTO to address "the patentability of any patent claim challenged by the petitioner *and any new claim added under [S]ection 316(d)*." 35 U.S.C. 318(a) (emphasis added). The addition (through amendment) of claims under Section 316(d) occurs during the inter partes review proceeding itself, after the Board has instituted review. See 35 U.S.C. 316(d)(1) ("During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways.").

If Congress had intended to require the Board to address in its final decision all claims challenged *in the petition*, it easily could have said so. Indeed, it used language to that effect in Section 314(a), which prohibits the PTO from instituting review unless the challenger is reasonably likely to prevail regarding "at least 1 of the claims *challenged in the petition*." 35 U.S.C. 314(a) (emphasis added). Congress's choice of different language in nearby provisions of the same statute is presumed to be deliberate. See *Russello* v. *United States*, 464 U.S. 16, 23 (1983); see, *e.g.*, *Department of Homeland Sec.* v. *MacLean*, 135 S. Ct. 913, 919 (2015). Congress's decision "to use a different phrase when describing claims raised in the petition for inter partes review in [Section] 314(a) and claims on which inter partes review has been instituted in [Section] 318(a)" supports the PTO's inference that the scope of the two provisions is not identical. *Synopsys*, 814 F.3d at 1315; see Pet. App. 21a. The better reading of the statute is that the

Board's final written decision need address only those claims as to which the agency has "authorize[d] an inter partes review to be instituted," 35 U.S.C. 314(a), not every claim as to which the petitioner originally sought review.

Here, too, a contrary interpretation would make little sense. While affording the PTO discretion to set the standards for granting inter partes review, see 35 U.S.C. 316(a)(2), Congress required that the PTO screen out at least those challenges that have no reasonable likelihood of success. Only if the PTO determines that a petitioner has cleared that threshold may the Board conduct inter partes review (resulting in a judicially reviewable final decision) at all. It would circumvent and largely defeat that carefully designed process to require the Board to render a final decision as to claims that the PTO concluded did not satisfy the threshold statutory standard of a reasonable likelihood of unpatentability.

c. Petitioner's contrary arguments lack merit. Petitioner emphasizes (Pet. 10-15) that the AIA directs the Board to issue a written decision as to "any * * * claim challenged by the petitioner." 35 U.S.C. 318(a). But petitioner disregards the conditional, prefatory clause of Section 318(a), which makes clear that the Board's obligation to issue a final written decision is tied to the institution decision. See *ibid.* (requiring the Board to issue a decision as to the challenged claims "[i]f an inter partes review is instituted and not dismissed under this chapter").

Petitioner argues (Pet. 15-16) that partial institution of inter partes review is contrary to the structure of the AIA. But while petitioner asserts that the PTO's prac-

tice of partial institution is contrary to the "clear command of the statute" (Pet. 20), petitioner identifies no statutory provision that bars the PTO from reviewing only those claims as to which it concludes the challenge has at least a reasonable likelihood of success. Nor does petitioner identify any reason why Congress would have wanted to burden patent owners and delay the PTO's decision-making process by requiring a full review of claims whose patentability is not reasonably in doubt.

Petitioner is likewise wrong in asserting (Pet. 15-16) that Section 318(a) parallels and must be read as coextensive with Sections 312(a)(3) and 314(a). As discussed, see pp. 12, 15-17, *supra*, Section 318(a) refers to claims challenged "by the petitioner"—in the context of a case where the PTO has already instituted proceedings—while Section 314(a) refers to claims challenged "in the petition," and Section 312(a) describes the petition's required contents. Whether or not the statutory text compels the PTO's interpretation authorizing partial institution, the PTO's regulation is a reasonable and pragmatic construction of the statute.

Petitioner's invocation of the AIA's purposes (Pet. 16-18) is also misplaced. While one purpose of the AIA is doubtless to provide an alternative to litigation in some circumstances, inter partes review is not a complete substitute for litigation. See generally *Cuozzo Speed Techs.*, 136 S. Ct. at 2143-2144 (discussing the differences between inter partes review and litigation). For example, inter partes review allows for challenges to patent claims only on limited grounds. 35 U.S.C. 311(b) (allowing inter partes review "only on a ground that could be raised under [S]ection 102 or 103 and only on the basis of prior art consisting of patents or printed publications"). Congress thus could not have expected

that the institution of an inter partes review would always obviate the need for district-court litigation between the same parties. And if the parties determine that the Board's review of only a subset of the claims is inefficient and will lead to duplicative proceedings, they can jointly move to terminate the inter partes review proceeding, without estoppel attaching. 35 U.S.C. 317(a).[4]

Petitioner argues (Pet. 17) that partial institution of inter partes review undermines the AIA's estoppel provision, which bars a petitioner from relitigating certain challenges to patent claims after an inter partes review. See 35 U.S.C. 315(e). Petitioner misreads the estoppel provision. As noted, see pp. 4, 12, *supra*, estoppel under Section 315(e) applies on a claim-by-claim basis, and the Board's review of one claim of a patent will

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[4] Petitioner highlights (Pet. 18, 20) a passage in a submission filed with the PTO by government attorneys representing the Department of Justice as the petitioner in an inter partes review. A single paragraph of that filing asked the Board to reconsider a decision to institute review as to only some of the claims challenged in the government's petition and argued—based on legislative history and Judge Newman's dissenting opinion in this case, without analysis of the statutory text or structure—that partial institution of inter partes review is inconsistent with congressional intent. Gov't Request for Reh'g at 5-6, U.S. Patent No. 7,323,980, *Department of Justice* v. *Discovery Patents, LLC*, No. IPR2016-1041 (P.T.A.B. Nov. 29, 2016). That administrative filing, which was not subject to review or approval by the Solicitor General, did not reflect the considered view of the United States. To the contrary, even before that submission was filed with the PTO, the Solicitor General had authorized the PTO to intervene both in *Synopsys* and in the case below to defend the PTO's regulation authorizing partial institution and the PTO's interpretation of 35 U.S.C. 318(a). See 28 C.F.R. 0.20(c) (intervention in a court of appeals requires approval by the Solicitor General).

not estop the petitioner from later challenging claims that were not so reviewed. See 35 U.S.C. 315(e)(1) (if "a claim" is the subject of a final written decision under Section 318(a), there can be no subsequent inter partes review "with respect to that claim" on grounds that could have been raised during the first proceeding); 35 U.S.C. 315(e)(2) (if "a claim" is the subject of a final written decision under Section 318(a), the petitioner cannot assert in a civil action or other proceeding "that the claim" is invalid on grounds that could have been raised in the inter partes review). Petitioner's apparent view (Pet. 17) that inter partes review is meant to provide global resolution of all issues regarding all claims in a patent is thus contrary to the plain language of the statute.

Petitioner also fails to acknowledge that another purpose of the AIA was to create an administratively efficient mechanism for cancelling patent claims whose patentability is in doubt. Petitioner criticizes the PTO for adopting procedures "for its own convenience" (Pet. 23), but Congress directed the agency to use its rulemaking authority to establish procedures that will allow for "efficient administration of the Office" and ensure "the ability of the Office to timely complete [inter partes] proceedings." 35 U.S.C. 316(b).[5]

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[5] Petitioner asserts (Pet. 21) that the Board might instead conserve its resources by ending its practice of issuing written opinions at the time a proceeding is instituted. But it is the agency's prerogative under the Patent Act to decide how best to achieve efficiency and to organize its own procedures. See 35 U.S.C. 2(b)(2), 316(a)(2) and (4). The PTO encourages its Board judges to write decisions explaining why the PTO is instituting review on some claims rather than others. See 77 Fed. Reg. at 48,765. That is because, to institute review, the Board must become familiar with the patent and the cited prior art and decide whether "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the

Finally, petitioner argues (Pet. 22-23) that the PTO's regulation authorizing partial institution should not be accorded *Chevron* deference. In addition to challenging the PTO's interpretation of the AIA, petitioner appears to contend more broadly (*ibid.*) that *Chevron* should not apply to the PTO's construction of the Patent Act. That contention is foreclosed by this Court's precedent. Congress has authorized the PTO to adopt regulations governing the relevant aspects of inter partes review, see 35 U.S.C. 316(a)(2) and (4), and this Court recently accorded deference to a PTO regulation governing a different aspect of inter partes proceedings, see *Cuozzo Speed Techs.*, 136 S. Ct. at 2142-2144.

Petitioner contends (Pet. 22-23) that statutory ambiguity cannot properly be treated as an implicit delegation of interpretive authority that could warrant judicial deference to an agency's views. Whatever the merits of that argument, it has no application here. Because the AIA "contains an express and clear conferral of authority to the [PTO] to promulgate rules governing its own proceedings," deference to PTO rules concerning the conduct of inter partes review does "not rest on" the assumption that "ambiguity in a statutory term is best construed as an implicit delegation of power to an administrative agency to determine the bounds of the law." *Cuozzo Speed Techs.*, 136 S. Ct. at 2148 (Thomas, J., concurring); see 35 U.S.C. 316(a). The regulation authorizing institution of partial review, 37 C.F.R. 42.108,

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claims challenged in the petition." 35 U.S.C. 314(a). The PTO has reasonably determined that the Board, the parties, and future litigants all may benefit from the analysis set forth in the PTO's institution-phase rulings.

was adopted pursuant to that express grant of rulemaking authority.[6]

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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APRIL 2017

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[6] Petitioner asserts in passing that, although Section 316 authorizes the PTO to adopt regulations establishing standards for instituting inter partes review, it does not allow the agency to "define the scope of such review." Pet. 22 (citing 35 U.S.C. 316(a)(2)) (internal quotation marks omitted). Among other problems, that contention disregards the PTO's authority under 35 U.S.C. 316(a)(4) to promulgate regulations "establishing and governing inter partes review." That broad grant of rulemaking power easily encompasses the PTO's partial-institution rule, which both establishes the scope of an inter partes review and governs its conduct. See *City of Arlington* v. *FCC*, 133 S. Ct. 1863, 1874 (2013).

RECORD AND BRIEFS

No. 16-969

IN THE

Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

MICHELLE K. LEE, Director, U.S. Patent and Trademark Office, and COMPLEMENTSOFT, LLC,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

REPLY FOR PETITIONER

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John R. Allison, Mark A. Lemley &
David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 Tex. L. Rev. 1769
(2014) 7

REPLY FOR PETITIONER

Congress commanded the Patent Office's Patent Trial and Appeal Board that, in inter partes review cases, the Board "shall" produce "a final written decision" addressing "the patentability of any patent claim challenged by the petitioner." 35 U.S.C. § 318(a). The Patent Office has instead determined that its final written decisions need only address the patentability of some of the claims that the petitioner challenged.

The question presented is nothing less than this: Who makes the laws in this country—the National Legislature or an executive agency?

1. The issue is undeniably important. Respondents nowhere deny SAS's showings (Pet. 23-25) that this question is squarely presented, has been fully ventilated within the Federal Circuit's exclusive patent jurisdiction, and is critically important to the orderly administration of the United States patent system. For that matter, the Director agrees that the issue presented here affects all aspects of post-issuance review, not just inter partes reviews. *See* Pet. 4 n.1; Opp. 2 n.1. Finally, with one exception, Respondents do not deny SAS's showing that this case is an ideal vehicle for addressing this admittedly important issue.

2. That single exception is found in the Director's half-hearted claim that the Federal Circuit lacked jurisdiction to decide an issue that SAS has never challenged—"that the PTO was required to institute review of every claim challenged in the petition for inter partes review." Opp. 9 (citing 35 U.S.C. § 314(d)). The Director calls this issue a "key

predicate" to SAS's argument, but that gives away the Director's strategy of misdirection: That issue is only a "key predicate" to the Director's argument; it is not SAS's argument, nor even a predicate thereto.

The petition, and the record, are clear: SAS challenges only the Federal Circuit's interpretation of 35 U.S.C. § 318(a)—the mandatory final-written-decision-on-all-challenged-claims requirement. *See, e.g.*, Pet. i, 6, 8, 9, 10, 11, 12, 15, 23, 24. And the Federal Circuit squarely decided exactly this issue adverse to SAS. *See, e.g.*, Pet. App. 20a ("SAS also argues that the Board erred by not addressing in the final written decision every '936 patent claim SAS challenged in its IPR petition."); *id.* at 21a ("[W]e reject SAS's argument that the Board must address all claims challenged in an IPR petition in its final written decision."). The Federal Circuit squarely addressed this pure question of law, and it is now ripe for this Court's review.

3. Since the issue is admittedly important, and the issue of law is pure and squarely presented, the Director is left to argue that the Federal Circuit's decision was correct as a matter of statutory interpretation, and that the Patent Office's generalized rulemaking authority somehow justifies its wholesale reconfiguration of Congress's plan for inter partes review. Neither argument is correct. Indeed, both of the Director's arguments only underscore the importance of the issue and the need for this Court's review now, lest this *ultra vires* regime become cemented into national law under the Federal Circuit's exclusive nationwide jurisdiction over patent cases.

a. As to statutory interpretation, the Director sets up and knocks down straw-man arguments at every turn. She cites sections 312 (requirements for petitions), 314 (threshold for institution), 315 (estoppel on finally decided claims), and 318 (the final-written-decision requirement) to support the unexceptional premise of her argument—that the AIA "explicitly requires claim-specific analysis at least to some extent." Opp. 12. From that premise, she draws the conclusion that the statute "cannot reasonably be construed to forbid claim-by-claim analysis" (*id.*), because "[e]very relevant aspect of the inter partes review process is . . . claim-specific." Opp. 13. Of course inter partes review is claim-specific, and SAS has never argued that the statute "forbid[s] claim-by-claim analysis." Patent claims define inventions, *see* 35 U.S.C. § 112(b), and only patent claims can be held unpatentable. To that extent, all challenges to patentability—whether under the AIA or in ordinary district-court invalidity litigation—are "claim-specific."

But that is not the question here. Rather, the question is whether the Patent Office correctly read the mandate of section 318—the Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner"—as arrogating to the Patent Office the ability to narrow the scope of that mandatory "final written decision" from "any patent claim challenged by the petitioner" to "only those claims chosen for adjudication by the Director."

When that correct question is asked, the correct answer becomes manifest. Congress's version of the AIA envisions an efficient, administrative substitute

for district-court invalidity litigation, whereby the petitioner picks the claims to be challenged, the Director decides whether the petition meets the minimal threshold for initiating an inter partes review, and the end result is either a denial of review (which leaves the patentability issues for the district courts), or a final written decision on all of those challenged claims, fully appealable to the Federal Circuit and having estoppel effect upon later patentability litigation in the district courts. Pet. 16-18.*

The Director, however, claims that the only efficiency that matters is the "the efficient operation of the Office and the ability of the Office to complete the proceeding within the one-year timeframe" of 35 U.S.C. § 316(a)(11). Opp. 14 (quoting 77 Fed. Reg. 48,680 48,703 (Aug. 14, 2012)). But, as SAS showed in the petition, administrative efficiency is no excuse for refusing to honor the clear text of legislation (Pet. 20-21), and, more importantly, Congress plainly

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* In ordinary civil litigation, claims dismissed at the threshold of a case (*e.g.*, under FED. R. CIV. P. 12(b)) nonetheless merge into the final judgment, whereby even those early-dismissed claims can be appealed—or given res judicata or collateral estoppel effect in future litigation. *See, e.g.*, *Cohen v. Beneficial Indus. Loan Corp.*, 337 U.S. 541, 546 (1949) ("fully consummated decisions" that are interlocutory "are but steps toward final judgment in which they will merge"). Congress's version of the AIA envisioned that inter partes review would work similarly—all claims challenged by the petitioner would be the subject of a final written decision which is both appealable and estopping. The Patent Office's version of the AIA, however, causes that Office to issue reasoned rejections of certain patent claims at the outset of inter partes review, but, solely due to agency fiat, those rejections can never be appealed or given estoppel effect. *See* Pet. 20-21.

designed inter partes review under the AIA to be efficient for all—the courts, litigants, and the agency. The AIA provides no warrant for the Patent Office to selfishly favor its own efficiencies to the exclusion of those of the parties and the courts.

The Patent Office's version of the AIA instead substitutes a complicated, expensive, two-front regime for challenging patent claims that is inefficient for everyone *but* the Patent Office. Congress's version was not only better policy; it was the version that was actually enacted by the legislative branch.

b. The Director's appeal to *Chevron* deference fares no better, for the clarity of the statute shows the Board's rules to be *ultra vires*. The Director relies on 35 U.S.C. § 316(a)(2) and (4), which authorize the PTO to promulgate regulations setting forth "the standards for the showing of sufficient grounds to institute a review" and "establishing and governing inter partes review" as a general matter. Opp. 13. In brief, the Director says, it was permissible for the PTO to adopt a regime of instituting inter partes reviews on fewer than all challenged claims, and having done so, "the statute would make very little sense if it required the Board to issue final decisions addressing patent claims for which inter partes review had not been initiated." Opp. 15 (quoting *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1315 (Fed. Cir. 2016)).

Here, again, the Director trivializes the statutory text. She avoids confronting the language of the statutory provision in question here—Section 318(a)—and instead defends the Board's extra-

statutory partial-institution procedures as "at a minimum reasonable and therefore entitled to deference." Opp. 13. The logic of the Director's argument is that "each claim challenged" in the petition (Section 312(a)(3)) does not actually mean the same thing as "any patent claim challenged by the petitioner" (Section 318(a)), because, where the Director exercises authority to institute review on fewer than all of the claims, that somehow changes the meaning of the virtually identical term in Section 318(a). Only a lawyer could love that kind of parsing of words.

The fundamental problem with the Director's argument is that the Patent Office nowhere purported to interpret or redefine the scope of Section 318(a)'s mandate—a final written decision on "any patent claim challenged by the petitioner." Nor would the statute's delegation of certain regulatory authority to the Director have allowed her to do so. Section 316(a) required the Director to prescribe regulations addressing 13 specified aspects of the inter partes review process. 35 U.S.C. § 316(a)(1)-(13). None of those 13 paragraphs—not even Section 316(a)(4)'s "regulations . . . establishing and governing inter partes review *under this chapter*" (emphasis added)—gave the Director authority to change the scope of the final written decision mandated "under this chapter." Congress already did that job in Section 318(a), and did it so clearly that no regulatory alteration or supplementation was either envisioned or allowed.

The "very little sense" identified by the *Synopsys* panel majority is thus a creation of the Patent Office's refusal to abide the Congressional plan; it is

not an ambiguity of the statute itself. As SAS showed (Pet. 22), this kind of wholesale redrafting of the AIA's adjudicatory system raises precisely the concerns about the structure of our representative government that have been voiced by Justice Thomas, by now-Justice Gorsuch, and most recently, by Judge Brown of the D.C. Circuit. *Waterkeeper Alliance v. EPA*, No. 09-1017, 2017 WL 1323525, at *9 (D.C. Cir. April 11, 2017) (Brown, J., concurring) ("If a court could purport fealty to *Chevron* while subjugating statutory clarity to agency 'reasonableness,' textualism will be trivialized.").

c. As SAS showed (Pet. 15-18), and as Judge Newman has three times emphasized in dissent (*Synopsys*, 814 F.3d at 1327-31; Pet. App. 30a-38a; Pet. App. 97a-100a), the Federal Circuit's blessing of the Patent Office's overreach destroys the efficiencies that Congress designed into the AIA through the application of estoppel from a final decision. *See* 35 U.S.C. § 315(e).

The Director's response is to say that "inter partes review is not a complete substitute for litigation," Opp. 18, referring to the Act's limitation to "ground[s] that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications." 35 U.S.C. § 311(b). But the point is that all of these grounds where the Board does have competence and authority—and which constitute the lion's share of invalidity defenses in district court litigation in any event, *see* John R. Allison, Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 Tex. L. Rev. 1769, 1787 (2014) (almost 60% of invalidity defenses in district-court litigation

are under 35 U.S.C. § 102 or § 103)—would now be resolved in the Patent Office. The fact that there are a handful of invalidity defenses that are outside the Board's authority does not provide an excuse for the Patent Office to gut, by rule, the efficiencies of the Congressional drafters' design.

* * * * *

The fact that the Department of Justice as IPR petitioner took a fundamentally different view of the statute than does the Department of Justice as lawyer for the Director of the Patent Office (*compare* Pet. 18, 20 *with* Opp. 19 n.4) only punctuates the reasons why this Court's review is needed. It shows that the issue is indeed important—the extra-statutory regime adopted by regulation even prejudices the government as litigant—and that the Federal Circuit's decision was not so obviously correct as the Director now claims it to be.

The petition should be granted.

Respectfully submitted,

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RECORD AND BRIEFS

Supreme Court, U.S.
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No. 16-969

IN THE
Supreme Court of the United States

SAS INSTITUTE INC.,
Petitioner,

v.

JOSEPH MATAL, Interim Director, U.S. Patent and Trademark Office, and COMPLEMENTSOFT, LLC,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

JOINT APPENDIX VOLUME I OF II

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PETITION FOR CERTIORARI FILED JANUARY 31, 2017
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U.S. DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

February 18, 2015
(Date)

THIS IS TO CERTIFY that the attached document is a list of the papers that comprise the record before the Patent Trial and Appeal Board (PTAB) for the *Inter Partes Review* proceeding identified below.

SAS INSTITUTE, INC.
Petitioner,
v.
COMPLEMENTSOFT, LLC,
Patent Owner
Case: IPR2013-00226
Patent No. 7,110,936 B2

By authority of the
DIRECTOR OF THE UNITED STATES
PATENT AND TRADEMARK OFFICE

/s/Kyra Abraham
Certifying Officer

Prosecution History IPR2013-00226

Date	Document
3/29/2013	**Petition for Inter Partes Review**
3/29/2013	Power of Attorney
4/5/2013	Notice of Filing Date Accorded to Petition
4/24/2013	Patent Owner's Power of Attorney
4/24/2013	Patent Owner's Power of Attorney
4/25/2013	Patent Owner's Mandatory Disclosures
5/31/2013	Petitioner's Revised Mandatory Notices
6/28/2013	Patent Owner's Preliminary Response
8/12/2013	Decision - Institution of Inter Partes Review
8/12/2013	Scheduling Order
9/9/2013	Patent Owner's Proposed Motions List
9/13/2013	Order - Conduct of the Proceeding
9/20/2013	Order - Conduct of the Proceeding
10/18/2013	Notice of Deposition - Roussopoulos
11/7/2013	Order - Conduct of the Proceeding
11/12/2013	Patent Owner's Response to Petition
12/17/2013	Order - Conduct of the Proceeding
12/20/2013	Substitute Contingent Motion to Amend
12/23/2013	Notice of Deposition - Hiew
12/23/2013	Notice of Deposition -Zatkovich
1/14/2014	Petitioner's Second Deposition Notice - Hiew
2/12/2014	Reply to Patent Owner's Response

Date	Document
2/12/2014	Opposition to Patent Owner's Motion to Amend
3/12/2014	Reply for Contingent Motion to Amend
3/20/2014	Order - Conduct of the Proceeding
4/2/2014	Petitioner's Request for Oral Hearing
4/4/2014	Order - Trial Hearing
5/5/2014	Order - Conduct of the Proceeding
5/5/2014	Petitioner's Submission of Demonstrative Exhibits
5/5/2014	Petitioner's Updated Exhibit List
5/5/2014	Patent Owner's Submission of Demonstrative Exhiibits
5/5/2014	Patent Owner's Updated Exhibit List
6/4/2014	Record of Oral Hearing
6/13/2014	Power of Attorney
8/6/2014	Final Written Decision
9/5/2014	Petitioner's Request for Rehearing
11/10/2014	Decision - Request for Rehearing

IN THE UNITED STATES PATENT TRIAL AND APPEAL BOARD

In the *Inter Partes* Review of U.S. Patent No. 7,110,936

Trial No.: Not Yet Assigned

Issued: September 19, 2006

Filed: November 19, 2001

Inventors: Fen Hiew, *et al.*

Assignee: Complementsoft LLC

Title: SYSTEM AND METHOD FOR GENERATING AND MAINTAINING SOFTWARE CODE

MAIL STOP *PATENT BOARD*
Patent Trial and Appeal Board
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

PETITION FOR *INTER PARTES* REVIEW UNDER 37 C.F.R. § 42.100

On behalf of SAS Institute, Inc. ("SAS" or "Petitioner") and in accordance with 35 U.S.C. § 311 and 37 C.F.R. § 42.100, *inter partes* review is respectfully requested for claims 1-16 of U.S. Patent No. 7,110,936 ("the '936 patent"), attached hereto as Exhibit 1001.

The undersigned representative of Petitioner authorizes the Patent Office to charge the $27,200 Petition Fee, along with any additional fees, to Deposit Account 501432, ref: 343355-610009. Sixteen claims are being reviewed; accordingly no excess claim fees are required.

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I. Introduction

The '936 patent is currently being wielded by the patent owner, Complementsoft LLC ("Complementsoft"), in an attempt to cover long-known systems and methods for developing software. (*ComplementSoft, LLC v. SAS Institute Inc.*, Docket No. 1:12-cv-07372 (N.D. Ill. Sept 14, 2012).) The '936 patent is directed to an integrated development environment for generating and maintaining source code and discloses four elements that work in concert – a document manager, an editor, a parser layer, and a visualizer. (*See, e.g.*, '936 patent, claim 1.) The subject matter claimed in the '936 patent includes standard elements that were well known in the prior art before the filing date of the '936 patent, and this was acknowledged by the Office.[1] Complementsoft itself has conceded that numerous claim elements of the '936 patent were disclosed in the prior art, as evidenced in documents filed in the related litigation. (*See* Ex. 1016, Complementsoft's LPR 2.5 Initial Response to SAS Institute's Invalidity Contentions.)

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[1] In a Supplemental Notice of Allowability for the '936 patent, the Office stated:

> "Applicants are disclosing a software development environment where a user can simultaneously view a graphical representation and a text representation of source code including views that are synchronized such that modifications to one view are automatically reflected in the other view, including the ability to detect the particular language of the source code by applying rules. This has been disclosed in the prior art of record." (Ex. 1004, Supplemental Notice of Allowability dated August 1, 2006, at 3-4.)

In fact, during prosecution of the '936 patent, the Office found that *all* four elements of claim 1 – the document manager, editor, parser layer, and visualizer – were disclosed in a single reference and in the same arrangement as claimed in the '936 patent. (Ex. 1002, Office Action dated May 31, 2005, at 3, noting "[The Coad reference] clearly anticipates the claimed limitations of independent claims 1 and 18.")

Despite this finding, however, Complementsoft was able to gain allowance based on a single aspect that allegedly distinguished the prior art from the pending claims. During prosecution, Complementsoft attempted to distinguish the prior art, which was applicable to object-oriented languages, from the amended claims, that were modified to recite data manipulation languages.[2] Complementsoft argued that the object-oriented languages used in the prior art were "structured" programming languages, while the data manipulation languages of the amended claims were "unstructured" programming languages, and that the claims were thus distinguishable from the prior art on this basis.

Complementsoft's argument, however, is technically misleading because a person of ordinary skill in the art would understand that most data manipulation languages are in fact structured programming languages, and the claims should not have been allowed on this basis. (*See* Ex. 1015, ¶¶ 24-60.) Further, the scope of claim 1, covering both program flows *and* data flows, is inconsistent with

---

[2] As filed, the claims were directed to any form of "source code."

the argument set forth by Complementsoft. This is because the distinction argued by Complementsoft (*i.e.*, that displaying flow in unstructured programming languages is distinguishable from displaying flow in structured programming languages) applies, if at all, to displaying *program flows* only. (*Id. at* ¶¶ 61-68.)

Moreover, as described below, the claimed software development environment was not new when the '936 patent was filed. As noted in the background of the '936 patent, GUI-based software editor packages are very old, and the problems inherent with such software were common knowledge in the field: "There are also a few GUI based editor software packages to make editing code easier.... What is lacking, however, is [an] . . . editor integrated with [a] diagramming package so the user does not have to manually generate and update program flow or data flow diagrams." ('936 patent at col. 1, lines 52-63.) The '936 patent purports to address these problems by dynamically linking an editor and a visualizer, such that edits made to source code using the editor are automatically reflected in graphical representations of flows displayed by the visualizer, and vice versa. (*See, e.g.*, *id. at* claim 1.) But the linking of an editor and a visualizer was a common component of software development environments at the time that the '936 patent was filed.

Accordingly, the lack of inventiveness is evidenced herein by the refutation of the argument presented during prosecution with respect to Coad. The lack of inventiveness is further shown, *inter alia*, by the submission of U.S. Patent No. 5,572,650 (Ex. 1005, "Antis"), which issued more than five years prior to

the filing of the '936 patent in November 2001. Antis discloses all of the limitations of the independent claim of the '936 patent, including the visualization of flows within source code programmed using a data manipulation language. Specifically, Antis discloses a "method and apparatus for visually displaying structural characteristics of a large database." (Antis at Abstract.) Antis discloses the display of graphical representations of flows in source code, and, in particular, flows in *data manipulation language* source code. In fact, the types of flows disclosed in the Antis patent are *nearly identical* to those described and claimed in the '936 patent. (*See, e.g.*, Fig. 17 of the '936 patent, disclosing flow by using arrows to display the data that is accessed by retrieved pieces of source code, and Antis at col. 7, line 31 to col. 8, line 4, disclosing a "code view" that provides a visual representation of the database relations that are accessed by a selected piece of source code.)

The dependent claims of the '936 patent add nothing more than well known software editing concepts that are explicitly disclosed in the Coad reference applied during prosecution or in one or more additional prior art references that are analogous art to Antis and that one of ordinary skill in the art would be motivated to combine with Antis in generating an integrated software development environment.

Petitioner submits that had the references presented herein been properly considered by the Patent Office during prosecution, claims 1-16 of the '936 patent would not have issued, and therefore this petition for *inter partes* review should be granted.

II. Grounds for Standing Pursuant to 37 C.F.R. § 42.104(a)

SAS certifies that the '936 patent is available for *inter partes* review and that SAS is not barred or estopped from requesting *inter partes* review challenging the patent claims on the grounds identified herein.

III. The '936 Patent

A. Summary of the '936 Patent

The '936 patent was filed on November 19, 2001, and issued on September 19, 2006. The '936 patent claims priority to U.S. Provisional Application Nos. 60/270,950 and 60/293,854, filed on February 23, 2001, and May 25, 2001, respectively.

The '936 patent is directed to an integrated software development environment for generating and editing computer code. ('936 patent at Abstract.) The integrated software development environment includes four modules: (1) a document manager, (2) an editor, (3) a parser layer, and (4) a visualizer. (*See id.* at col. 5, lines 4-25.) The document manager is a file management program used to retrieve source code for editing. (*Id.* at col. 6, lines 22-42.) The retrieved source code is edited using the editor module, which "allows the user to perform standard text editing functions, including, mouse placement of the cursor, click-and-drag text selection and standard Windows key combinations for cutting, copying and pasting data." (*Id.* at col. 7, lines 4-7.)

The parser layer and the visualizer are used to display graphical representations of flows within the retrieved source code. The parser layer is "language aware," such that the integrated software

development environment of the '936 patent is able to develop and edit code of multiple different programming languages. (*Id.* at col. 17, lines 17-32; *see also id.* at col. 9, lines 49-53, disclosing use with SAS, SQL, SPSS, DB2 UDB, Oracle, and PL/SQL languages.) Using the rules and logic that correspond to the detected programming language, the file parser breaks the retrieved source code into individual words or tokens. (*Id.* at col. 17, lines 46-49.) The file parser also tags each token to associate it with a particular class. (*Id.* at col. 17, lines 48-54.)

Tagging of the tokens enables the visualizer module to recognize and display the flow of the retrieved source code. (*Id.* at col. 17, lines 54-56.) Fig. 17, for example, is an exemplary screenshot from the visualizer module depicting a flow of retrieved source code. In Fig. 17, the visualizer module displays at 120 icons 126 with arrows that illustrate data flow in the retrieved source code. The flow thus provides an indication of what data (*e.g.*, relations smpl.smpl_1, smpl.smpl_2) are accessed by which modules of source code (*e.g.*, source code used to perform a sort operation).

The visualizer module is dynamically linked with the editor module, such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer, and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor. (*See, e.g.*, *id.* at claim 1 and col. 16, lines 31-46.)

B. The '936 Patent Prosecution History

The '936 patent was allowed after responses to two non-final Office Actions were filed. The first non-final Office Action rejected the original claims based upon the Coad reference (Ex. 1006, U.S. Patent No. 6,851,107). The Office found that all four elements of independent claim 1 were disclosed in the Coad reference and in the same arrangement as claimed in the '936 patent. (Ex. 1002, Office Action dated May 31, 2005, at 2-3, noting that "Coad clearly anticipates the claimed limitations of independent claims 1 and 18.") In an attempt to distinguish the pending claims from Coad, Complementsoft amended independent claim 1 as follows:

> 1. (Currently Amended) An integrated development environment, comprising:
>
> a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;
>
> an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;
>
> a parser layer which detects the one of the plurality of types of data manipulation languages in which the ~~software language of the~~ retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages ~~software language~~; and
>
> a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the

> plurality of types of data manipulation languages and activated by the parser, wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.

In its remarks, Complementsoft did not dispute that all four elements of the independent claim (*i.e.*, the document manager, editor, parser, and visualizer) were disclosed in Coad. Instead, Complementsoft argued:

> Considering now Coad, Coad discloses a software development tool for use with object-oriented programming languages, such as Java or C++. More particularly, Coad discloses a system in which the object-oriented language of the source code is identified by the extension of a retrieved file to thereby identify a template which is to be used to convert the source code into a transient meta model (TMM), *i.e.*, a language-neutral representation of the source code. The system then uses the TMM to display a graphical representation of a project.
>
> From the foregoing it will be appreciated that Coad fails to expressly or inherently disclose the claimed system and method. More particularly, rather than disclose the claimed system and method for examining software written using one of the plural **data manipulation**

> **languages, *i.e.*, a language which suffers the problem of being unstructured** (*see* Background section of subject application), the system and method described in Coad is limited to software written using an **object oriented language, *i.e.*, a structured programming language** such as Java or C++. . . . [T]he system and method of Coad leverages the **structured** nature of the programming language to merely "convert" the source code into a language-neutral representation and then use the language-neutral representation to display a graphical representation of the project. (Ex. 1003, Response to Office Action dated August 4, 2005, at 9-10, emphasis added.)

Complementsoft thus argued that the object-oriented languages of Coad were "structured" programming languages, while the data manipulation languages of the claims were "unstructured" programming languages, and that the claims were distinguishable from Coad on this basis.

Claim 1 ultimately issued in the form shown above. A supplemental notice of allowability provided the following with respect to claim 1 overcoming Coad:

> Coad further discloses the ability to detect the particular language of the source code and applying rules. However, Coad does not explicitly disclose the specific arrangement of elements including a document manager, editor, parser layer, or visulizer [sic] as noted above, or that the detected language is a <u>data manipulation language</u>. (Ex. 1004,

Supplemental Notice of Allowability at 5, emphasis in original.)

IV. Identification of Challenge Pursuant to 37 C.F.R. § 42.104(b)

A. 37 C.F.R. § 42.104(b)(1): Claims For Which *Inter Partes* Review Is Requested

Inter partes review is requested for claims 1-16 of the '936 patent.

B. 37 C.F.R. § 42.104(b)(2): The Prior Art and Specific Grounds On Which The Challenge to the Claims Is Based

Inter partes review is requested in view of the following prior art references:

- U.S. Patent No. 5,572,650 to Antis *et al.* ("Antis") (Exhibit 1005). Antis was filed on June 30, 1994, and issued on November 5, 1996. Antis is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).
- U.S. Patent No. 6,851,107 to Coad *et al.* ("Coad") (Exhibit 1006). Coad was filed on October 4, 2000, and issued on February 1, 2005. Coad is therefore prior art to the '936 patent under 35 U.S.C. § 102(e).
- U.S. Patent No. 6,356,285 to Burkwald *et al.* ("Burkwald") (Exhibit 1007). Burkwald was filed on December 17, 1997, and issued on March 12, 2002. Burkwald is therefore prior art to the '936 patent under 35 U.S.C. § 102(e).
- U.S. Patent No. 5,937,064 to Eick *et al.* ("Eick") (Exhibit 1008). Eick was filed on March 3, 1997, and issued on August 10, 1999. Eick is therefore

prior art to the '936 patent under 35 U.S.C. § 102(b).

- "Microsoft Access 97 Visual Basic Step by Step" (hereinafter "Access 97 Visual Basic") (Exhibit 1009). Access 97 Visual Basic was published in 1997. Access 97 Visual Basic is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).
- U.S. Patent No. 5,758,122 to Corda *et al.* ("Corda") (Exhibit 1010). Corda was filed on March 15, 1995, and issued on May 26, 1998. Corda is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).
- "Building Applications with Microsoft Access 97" (hereinafter "Building Applications") (Exhibit 1011). "Building Applications" was published in 1996. "Building Applications" is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).
- "Oracle Programming – A Primer" (hereinafter "Oracle Primer") (Exhibit 1012). Oracle Primer was published in 1999. Oracle Primer is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).
- "Oracle8 Programming: A Primer" (hereinafter "Oracle8 Primer") (Exhibit 1013). Oracle8 Primer was published in 1999. (*See* Ex. 1017.) Oracle8 Primer is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

The specific statutory grounds on which the challenge to the claims is based and the patents relied upon for each ground are as follows:

a) Claim 1 is anticipated by Coad under 35 U.S.C. § 102(e).

b) Claim 1 is unpatentable under 35 U.S.C. § 103(a) over Coad in view of Oracle Primer and Oracle8 Primer.

c) Claims 1-3 and 5 are anticipated by Antis under 35 U.S.C. § 102(b).

d) Claims 1-3, 5, 6, 8, 10-12, 15, and 16 are unpatentable under 35 U.S.C. § 103(a) over Antis in view of Coad.

e) Claim 4 is unpatentable under 35 U.S.C. § 103(a) over Antis in view of Coad and Burkwald.

f) Claim 7 is unpatentable under 35 U.S.C. § 103(a) over Antis in view of Coad and Eick.

g) Claim 9 is unpatentable under 35 U.S.C. § 103(a) over Antis in view of Coad and "Building Applications."

h) Claim 13 is unpatentable under 35 U.S.C. § 103(a) over Antis in view of Coad and Corda.

i) Claim 14 is unpatentable under 35 U.S.C. § 103(a) over Antis in view of Coad and Access 97 Visual Basic.

j) To the extent not explicitly enumerated above, claims 2-16 are unpatentable over each reference and combination of references asserted for claim 1 in view of the prior art.

C. 37 C.F.R. § 42.104(b)(3): Claim Construction

Pursuant to 37 C.F.R. § 42.100(b), and solely for the purposes of this review, Petitioner construes the claim language such that the claims are given their broadest reasonable interpretation in light of the specification of the '936 patent. For terms not specifically listed and construed below, Petitioner

interprets them for purposes of this review in accordance with their plain and ordinary meaning under the required broadest reasonable interpretation.

"***automatically***" — Claim 1. For purposes of this review, Petitioner adopts the construction "*without user intervention*" for the term "automatically." This is consistent with the '936 patent's specification as well as applicable case law. In the specification, for example, the '936 patent states: "Preferably, the visualizer and editor are integrated so that changes made to the code in the editor are *immediately* reflected in the visualizer and vice-versa." ('936 patent at 2:42-45; emphasis added). The term "automatic" has been construed previously in other litigations involving software technology. *See*, for example: *Collegenet, Inc. v. Applyyourself, Inc.*, 418 F.3d 1225 (Fed. Cir. 2005) (affirming the District Court's interpretation that the claim term "automatically" means "once initiated, the function is performed by a machine, without the need for manually performing the function."); *Eolas Technologies, Inc. v. Adobe Systems, Inc.*, 810 F. Supp.2d 795 (E.D. Texas 2011) (finding that the claim term "automatically invoking the executable applications" meant that the executable application is launched without user activation.); and *Rockwell Electronic Commerce Corporation v. Apropos Technology, Inc.*, 2002 U.S. Dist. LEXIS 272 (N.D. Illinois 2002) (finding that the claim term "automatically" in several phrases means "initiated and performed without human intervention.")

"***data manipulation language***" — Claim 1. For purposes of this review, Petitioner adopts the

construction "*a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database*" for the term "data manipulation language." (*See* Ex. 1015, ¶¶ 48-54.) This is consistent with the '936 patent's specification. In the specification, for example, the '936 patent cites SQL and Oracle as data manipulation languages for accessing data in a database. (*See, e.g.*, '936 patent at col. 1, lines 20-25.) Based on such disclosures, the adopted claim construction for "data manipulation language" is consistent with the disclosure in the '936 patent with respect to data manipulation languages.

Because the standard for claim construction at the Patent Office is different than that used during a U.S. District Court litigation, *see In re Am. Acad. Of Sci. Tech Ctr.*, 367 F.3d 1359, 1364, 1369 (Fed. Cir. 2004); MPEP § 2111, Petitioner expressly reserves the right to argue a different claim construction in litigation for any term of the '936 patent as appropriate in that proceeding.

D. 37 C.F.R. § 42.104(b)(4): How the Construed Claims are Unpatentable

A detailed explanation of how claims 1-16 are unpatentable is set forth below at Section V.

E. 37 C.F.R. § 42.104(b)(5): Supporting Evidence

An Appendix of Exhibits supporting this Petition is attached. Included at Exhibit 1015 is a Declaration of Dr. Nick Roussopoulos under 37 C.F.R. § 1.68. References discussed in the Declaration of Dr. Nick Roussopoulos are attached as Exhibits 1021 – 1040.

V. There Is a Reasonable Likelihood That at Least One Claim of the '936 Patent Is Unpatentable

Section V.A contains a description of each piece of relevant prior art and an explanation of the motivation to combine the relevant prior art (where applicable), and Section V.B contains claim charts identifying where each element of the challenged claims are found in the prior art.

A. Overview of the Prior Art

1. Coad

"Coad" (Ex. 1006), U.S. Patent No. 6,851,107, was filed on October 4, 2000, and issued on February 1, 2005. Coad is therefore prior art to the '936 patent under 35 U.S.C. § 102(e). Coad was applied against the claims of the '936 patent during prosecution. (*See* Ex. 1002, Office Action dated May 31, 2005.) During prosecution, the Office found that Coad disclosed numerous limitations of the claims, including "a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code." (*See id. at* 3.)

Coad is directed to a "software development tool which allows a developer to simultaneously view a graphical and a textual display of source code." (Coad at Abstract.) The graphical and textual views are synchronized, such that modifications made in one view are automatically reflected in the other view. (*Id.* at col. 4, line 64 to col. 5, line 2.) To display the graphical view of the source code, the software development tool of Coad "determines the language of the source code of the chosen file, converts the source code from the language into a

language-neutral representation, uses the language-neutral representation to textually display the source code of the chosen file in the language, and uses the language-neutral representation to display a graphical representation of at least a portion of the project." (*Id.* at col. 15, lines 21-28.) The graphical view of the source code includes graphical representations of flows within the source code. (*Id.* at col. 16, line 57 to col. 17, line 47.)

The software development tool of Coad further discloses a Quality Assurance (QA) module used to check source code for various types of errors (*i.e.*, coding errors, critical errors, and declaration style errors, among others). (*Id.* at col. 9, line 66 to col. 10, line 5.) If errors are detected in the source code, an error message and debugging tip for correcting the code are provided to the developer. (*Id.* at col. 14, line 64 to col. 15, line 15.)

2. Antis

"Antis" (Ex. 1005), U.S. Patent No. 5,572,650, was filed on June 30, 1994, and issued on November 5, 1996. Antis is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

Antis is directed to a relational database analysis system that provides graphical displays for visualizing structures and relationships within relational databases. (Antis at col. 1, lines 15-18.) To provide the visualizations, the relational database analysis system includes a number of linked "views." For example, a highest level view of a relational database is presented in an "over view," as illustrated in Fig. 2 of Antis. The over view displays high-level statistics and characteristics of the relational

database including a listing of all relations of the database. (*Id.* at col. 4, lines 1-19.)

Further information on the relational database is provided in additional views that are interactively linked to the over view and to each other. (*Id.* at col. 2, lines 36-39; *see also id.* at Figs. 2-12, depicting linked views including specification view, associations view, code view, and domain view, among others.) For example, in Fig. 8, Antis discloses a "code view" including a plurality of code boxes, where each code box represents a unit of source code of a relational database management system (RDBMS). The code view is linked to the over view, such that associations between relations of the database and the source code that accesses the relations can be visually represented. For example, if a relation is selected in the over view, the application source code that "use[s] the currently selected relation [is] displayed in the code view." (*Id.* at col. 7, lines 36-38.) Similarly, "[c]licking the mouse button on a code box [in the code view] highlights in the over view all relations that use the corresponding unit of code." (*Id.* at col. 7, lines 52-54.) The associations between the relations of the database and the source code that accesses the relations are determined via a parser layer that is based on the YACC computer program. (*Id.* at col. 9, lines 29-41.) The parser layer detects one of a plurality of different types of programming languages used in source code and applies appropriate rules and logic based on the detected language. (*Id.*)

The linking of the various views "makes them interactive with each other, such that changes to one view causes corresponding changes in the other

actively linked views." (*Id.* at col. 9, lines 23-25.) For example, Antis discloses that a piece of source code can be retrieved via Cscope, "a well known code browser." (*Id.* at col. 9, line 46.) Any edits to the retrieved source code "will have coordinated interactive results in the other open views." (*See id.* at col. 8, line 63 to col. 9, line 1, and Fig. 12.)

3. Motivation to Combine Antis with Coad

A person of ordinary skill in the art (POSITA) would have been motivated to combine Antis's teachings with Coad because both Antis and Coad are directed to software development tools that provide visual representations of source code. The similar purposes and overlapping teachings that would have motivated the POSITA to combine the teachings of Antis and Coad are further reflected in the interlinked, synchronized "views" disclosed in both references. The POSITA in software development systems would have been motivated to supplement Antis's database analysis system with Coad's teaching of a Quality Assurance (QA), because this would allow for easier source code debugging and a more accurate code view display in Antis by enabling automatic detection of source code errors. (*See* Ex. 1015, ¶¶ 164-167.)

4. Burkwald

"Burkwald" (Ex. 1007), U.S. Patent No. 6,356,285, was filed on December 17, 1997, and issued on March 12, 2002. Burkwald is therefore prior art to the '936 patent under 35 U.S.C. § 102(e). Burkwald was applied against the claims of the '936 patent during prosecution. (*See* Ex. 1002, Office Action dated May

31, 2005, at 5-6.) The Office found that Burkwald disclosed limitations of the claims including "graphical representations of data flows [that] are expandable and collapsible." (*See id.*)

Burkwald is directed to a "software visualization technique [that] allows a software application or portfolio to be visually analyzed." (Burkwald at Abstract.) The software visualization technique of Burkwald allows a user to expand or collapse a displayed graphical representation of source code flow. (*Id.* at col. 14, line 43 to col. 15, line 15, and Figs. 6-8.)

5. Motivation to Combine Burkwald with Antis and Coad

A POSITA would have been motivated to combine Burkwald's teachings with Antis and Coad because all three references are directed to software development tools that provide visual representations of source code, such that the similar purposes and overlapping teachings would have motivated the POSITA to combine the teachings of the references. The POSITA would have been motivated to supplement the development tools of Antis and Coad with Burkwald's teaching of expanding and collapsing graphical representations of source code flows, because this would provide a developer with flexibility to modify the views of Antis and Coad to display information at a higher or lower level of detail. (*See* Ex. 1015, ¶ 218.)

6. Access 97 Visual Basic

Access 97 Visual Basic (Ex. 1009) was published in 1997. Access 97 Visual Basic is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

Access 97 Visual Basic is an instructional book that includes tutorials for using Microsoft Access 97 Visual Basic software, which is a database management system. A portion of the book entitled "Finding and Fixing Bugs in Your Code" discloses that the Microsoft Access 97 Visual Basic software highlights and displays source code in red text when the system determines there is an error. (Access 97 Visual Basic at 140.)

7. Motivation to Combine Access 97 Visual Basic with Antis and Coad

A POSITA would have been motivated to combine the teachings of Access 97 Visual Basic with Antis and Coad because all three references are directed to software development tools that provide visual representations of source code, such that the similar purposes and overlapping teachings would have motivated the POSITA to combine the teachings of the references. As another example, the POSITA in software development systems would have been motivated to supplement the development tools of Antis and Coad with the teachings of Access 97 Visual Basic regarding changing the appearance of source code determined to have errors, because this would simplify source code debugging in Antis and Coad. (*See* Ex. 1015, ¶ 242.)

8. Eick

"Eick" (Ex. 1008), U.S. Patent No. 5,937,064, was filed on March 3, 1997, and issued on August 10, 1999. Eick is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

Eick is directed to a system for "visual analysis of a database." (Eick at col. 1, lines 6-7.) The disclosed

system allows a variety of remote clients to access information from a database for the purpose of allowing the clients to perform interactive visualization of the database. (*Id. at* col. 2, lines 9-15.) Eick discloses that a security layer can be used to manage the connections between the clients and the database, where the security layer utilizes, for example, password protection or data encryption techniques. (*Id.* at col. 4, lines 19-27.)

9. Motivation to Combine Eick with Antis and Coad

A POSITA would have been motivated to combine Eick's teachings with Antis and Coad because all three references are directed to visual representations of source code and data structures, such that the similar purposes and overlapping teachings would have motivated the POSITA to combine the teachings of the references. As another example, the POSITA in software development systems would have been motivated to supplement the development tools of Antis and Coad with Eick's teaching of a security layer for managing secure connections with remote computers, because this would allow the systems of Antis and Coad to be distributed to one or more remote locations without a substantially increased risk that remotely stored data could be compromised. (*See* Ex. 1015, ¶ 224.)

10. Corda

"Corda" (Ex. 1010), U.S. Patent No. 5,758,122, was filed on March 16, 1995, and issued on May 26, 1998. Corda is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

Corda is directed to an "immersive visual programming environment" that "permits the flow of data objects and the interaction among the data objects to be visually displayed to the user." (Corda at Abstract.) The disclosed programming environment is configured to change an appearance of a displayed data flow if an error is detected in source code: "Semantic error detection is enhanced through observation of the flow of data and the motion of the structure itself. . . . Run-time error messages in the form of sight and sound alerts are provided, with the offending component highlighted in some way." (*Id.* at col. 4, lines 41-48.)

11. Motivation to Combine Corda with Antis and Coad

A POSITA would have been motivated to combine Corda's teachings with Antis and Coad because all three references are directed to providing visual representations of source code, such that the similar purposes and overlapping teachings would have motivated the POSITA to combine the teachings of the references. As another example, the POSITA in software development systems would have been motivated to supplement the development tools of Antis and Coad with the teachings of Corda regarding changing the appearance of displayed flows to indicate source code determined to have errors, because this would simplify source code debugging in Antis and Coad. (*See* Ex. 1015, ¶ 236.)

12. "Building Applications"

"Building Applications" (Ex. 1011) was published in 1996. "Building Applications" is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

"Building Applications" is an instructional book that includes tutorials for using Microsoft Access 97 software, which is a database management system. A portion of the book entitled "Writing and Editing Code" discloses that the Microsoft Access 97 software includes an "automatic syntax checking" feature configured to automatically correct segments of source code determined to have errors: "Visual Basic checks the syntax of that line and displays a message if it finds an error. To enable automatic syntax checking, select the Auto Syntax Check check box on the Module tab of the Options dialog box (Tools menu)." ("Building Applications" at 54.)

13. Motivation to Combine "Building Applications" with Antis and Coad

A POSITA would have been motivated to combine the teachings of "Building Applications" with Antis and Coad because all three references are directed to software development tools that provide visual representations of source code, such that the similar purposes and overlapping teachings would have motivated the POSITA to combine the teachings of the references. The POSITA in software development systems would have been motivated to supplement the development tools of Antis and Coad with the teachings of "Building Applications" regarding automatically correcting segments of source code determined to have errors, because this would simplify the debugging of source code in Antis and Coad. (*See* Ex. 1015, ¶ 230.)

14. Oracle Primer

Oracle Primer (Ex. 1012) was published in 1999. Oracle Primer is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

Oracle Primer is an instructional book that includes information on the Oracle database system. Oracle Primer also includes information on the JDBC (Java Database Connectivity) application programming interface (API), which enables database access in the Java programming language. (Ex. 1012 at 187-189 and 194.)

15. Oracle8 Primer

Oracle8 Primer (Ex. 1013) was published in 1999. (*See* Ex. 1017, Declaration of Morris M. Jackson.) Oracle8 Primer is therefore prior art to the '936 patent under 35 U.S.C. § 102(b).

Oracle8 Primer is an instructional book that includes information on the Oracle database system. Oracle8 Primer discloses that SQL can be embedded in the Java, C, and C++ programming languages, thus allowing each of these programming languages to access data in a database. (Ex. 1013, Oracle8 Primer at 93, 95, 103, 108, 118, 277, 280, 281, 294, and 301.)

16. Motivation to Combine Oracle Primer and Oracle8 Primer with Coad

A POSITA would have been motivated to combine Coad's teachings with Oracle Primer and Oracle8 Primer because all three references are directed to computer programming, generally, and to the Java and C++ programming languages, specifically, such that the similar purposes and overlapping teachings would have motivated the POSITA to combine the

teachings of the references. Further, the POSITA would have been motivated to supplement Coad with the disclosure in the Oracle Primer and the Oracle8 Primer regarding using the Java and C++ programming languages to access data in a database, because this would enhance the utility of these programming languages by allowing them to retrieve, insert, delete, or modify data of a database. (*See* Ex. 1015, ¶ 115.)

B. Claim 1 Is Anticipated by Coad (U.S. Patent No. 6,851,107)

Claim 1 is anticipated by Coad as indicated below.

1. An integrated development environment, comprising:
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 82-84.)To the extent the preamble is considered a limitation to the claim, Coad discloses an integrated software development environment at Abstract: "Methods and systems consistent with the present invention provide an improved software development tool which allows a developer to simultaneously view a graphical and a textual display of source code. The graphical and textual views are synchronized so that a modification in one view is automatically reflected in the other view." **Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Coad. (Ex. 1016 at 18.)**
[1.1] a document manager for retrieving source code programmed using one of a plurality of types of data

manipulation languages;
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 85-87.) At col. 15, lines 60-64, Coad discloses a document manager for retrieving source code from a selected file: "As previously stated, the project comprises a plurality of files. The developer either uses the software development tool to open a file which contains existing source code, or to create a file in which the source code will be developed." **At Abstract, Coad further discloses that the retrieved source code may be programmed using one of a plurality of types of programming languages:** "In addition, the software development tool is designed for use with more than one programming language." **As stated above in Section IV.C, a data manipulation language is "*a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database.*" Coad discloses use of the software development tool with the C++ and Java programming languages. (*See, e.g.*, Coad at col. 16, lines 1-4.) Because both of these programming languages had functions that allowed them to access data in a database (*see* Ex. 1015, ¶¶ 48-54), the C++ and Java programming languages of Coad disclose the recited "data manipulation languages" of claim 1.**
[1.2] an editor for displaying the retrieved source

code and providing a means for a user to edit the retrieved source code;
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 88-89.) At col. 4, lines 54-60, Coad discloses an incremental code editor (ICE) for displaying and editing retrieved source code: "Although modifications made on the displays 204 and 206 may appear to modify the displays 204 and 206, in actuality all modifications are made directly to the source code 202 via an incremental code editor (ICE) 208, and the TMM 200 is used to generate the modifications in both the graphical 204 and the textual 206 views from the modifications to the source code 202." **Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Coad. (Ex. 1016 at 18.)**
[1.3.1] a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 90-91.) At col. 2, lines 57-58 and col. 5, lines 50-55, Coad discloses a parser layer configured to detect the language of the retrieved source code: "The method comprises the steps of determining the language of the source code of the chosen file . . . ." (Coad at col. 2, lines 57-58.) "The core 700 includes a parser 706 and an ICE 208. The parser 706 converts the source code into the language-neutral representation in the TMM, and

the ICE 208 converts the text from the displays into source code." (*Id.* at col. 5, lines 50-55.)
[1.3.2] [the parser layer] which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and
Coad discloses this claim element. (*See* Ex. 1015, ¶ 92.) Coad discloses that the parser layer is configured to apply rules and logic applicable to the detected language. *See* Coad at col. 5, lines 50-55, reproduced above for element 1.3.1. *See also* col. 16, lines 4-16: "The software development tool then obtains a template for the current programming language, *i.e.*, a collection of generalized definitions for the particular language that can be used to build the data structure (step 904). For example, the definition of a new Java class contains a default name, *e.g.*, 'Class1,' and the default code, 'public class Class1 { }.' Such templates are well known in the art. For example, the 'Microsoft Foundation Class Library' and the 'Microsoft Word Template For Business Use Case Modeling' are examples of standard template libraries from which programmers can choose individual template classes. The software development tool uses the template to parse the source code (step 906), and create the data structure (step 908)." ***See also* Tables 1-17 at col. 6, line 30 to col. 14, line 63, disclosing rules applied by the parser layer.**
[1.4] a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic

applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser,
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 93-107.) Coad discloses a viewer (*i.e.*, visualizer) for displaying graphical representations of flows in source code at col. 16, line 57 to col. 17, line 47: "The software development tool is collectively broken into three views of the application: the static view, the dynamic view, and the functional view. The static view is modeled using the use-case and class diagrams. A use case diagram 1200, depicted in FIG. 12, shows the relationship among actors 1202 and use cases 1204 within the system 1206. A class diagram 1300, depicted in FIG. 13 with its associated source code 1302, on the other hand, includes classes 1304, interfaces, packages and their relationships connected as a graph to each other and to their contents. The dynamic view is modeled using the sequence, collaboration and statechart diagrams. As depicted in FIG. 14, a sequence diagram 1400 represents an interaction, which is a set of messages 1402 exchanged among objects 1404 within a collaboration to effect a desired operation or result. In a sequence diagram 1400, the vertical dimension represents time and the horizontal dimension represents different objects. A collaboration diagram 1500, depicted in FIG. 15, is also an interaction with messages 1502 exchanged among objects 1504, but it is also a collaboration, which is a set of objects 1504 related in a particular context. Contrary to sequence diagrams

1400 (FIG. 14), which emphasize the time ordering of messages along the vertical axis, collaboration diagrams 1500 (FIG. 15) emphasize the structural organization of objects.

A statechart diagram 1600 is depicted in FIG. 16. The statechart diagram 1600 includes the sequences of states 1602 that an object or interaction goes through during its life in response to stimuli, together with its responses and actions. It uses a graphic notation that shows states of an object, the events that cause a transition from one state to another, and the actions that result from the transition.

The functional view can be represented by activity diagrams 1700 and more traditional descriptive narratives such as pseudocode and minispecifications. An activity diagram 1700 is depicted in FIG. 17, and is a special case of a state diagram where most, if not all, of the states are action states 1702 and where most, if not all, of the transitions are triggered by completion of the actions in the source states. Activity diagrams 1700 are used in situations where all or most of the events represent the completion of internally generated actions.

There is also a fourth view mingled with the static view called the architectural view. This view is modeled using package, component and deployment diagrams. Package diagrams show packages of classes and the dependencies among them. Component diagrams 1800, depicted in FIG. 18, are graphical representations of a system or its component parts. Component diagrams 1800 show

the dependencies among software components, including source code components, binary code components and executable components. As depicted in FIG. 19, Deployment diagrams 1900 are used to show the distribution strategy for a distributed object system. Deployment diagrams 1900 show the configuration of run-time processing elements and the software components, processes and objects that live on them." **Figs. 11 – 17 of Coad depict aspects of the viewer for displaying graphical representations of flows in source code. For example, Fig. 16 is an example of a graphical representation of flow disclosed in Coad, where a statechart diagram 1600 depicts the sequence of states 1602 that an object or interaction goes through during its life in response to stimuli.**
[1.5] wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 108-110.) Coad discloses that graphical and textual views are synchronized such that modifications made to one view are automatically reflected in the other view, as disclosed at col. 4, line 61 to col. 5, line 3: "The improved software development tool provides simultaneous round-trip engineering, *i.e.*, the

> graphical representation 204 is synchronized with the textual representation 206. Thus, if a change is made to the source code 202 via the graphical representation 204, the textual representation 206 is updated automatically. Similarly, if a change is made to the source code 202 via the textual representation 206, the graphical representation 204 is updated to remain synchronized. There is no repository, no batch code generation, and no risk of losing code."

Complementsoft's arguments made with respect to Coad during prosecution are inconsistent with the claim language and lack technical merit. In particular, the argument that equated "data manipulation languages" with "unstructured programming languages" is technically untrue because a person of ordinary skill in the art would understand that most data manipulation languages are in fact structured programming languages. (*See* Ex. 1015, ¶¶ 24-60.)

Further, the scope of claim 1, covering both program flows *and* data flows, is inconsistent with the argument made by Complementsoft when distinguishing claim 1 from Coad. This is because the distinction argued by Complementsoft (*i.e.*, that displaying flow in unstructured programming languages is distinguishable from displaying flow in structured programming languages) applies, if at all, only to displaying *program flows*. This distinction does not apply to data flows. (*Id.* at ¶¶ 61-68.)

For these reasons, and in light of the fact that Coad discloses a "data manipulation language" (*see* Ex. 1015, ¶¶ 48-54), Petitioner believes that the

Office's rejection of claim 1 over Coad was proper and therefore proposes a similar ground of unpatentability here.

C. Claim 1 Is Obvious Over Coad in View of Oracle Primer and Oracle8 Primer

As discussed above, Coad discloses all limitations of claim 1. To the extent it could be argued that any further disclosure may be required with respect to the "data manipulation language" feature of claim 1, Oracle Primer and Oracle8 Primer provide such further disclosure. As explained above in Section IV.C, a data manipulation language is *a programming language used to access data in a database, such as to retrieve, insert, delete, or modify data in the database.* The Oracle Primer and Oracle8 Primer references disclose that the programming languages used in the Coad reference (*i.e.*, Java and C++) included functions that allowed the programming languages to access data in a database. Therefore, Oracle Primer and Oracle8 Primer disclose that the Java and C++ programming languages of Coad are "data manipulation languages," as recited in claim 1. (*See* Ex. 1015, ¶¶ 111-114.)

For example, Oracle Primer discloses the JDBC (Java Database Connectivity) application programming interface (API), which enables database access in the Java programming language. (Ex. 1012, Oracle Primer at 187-189 and 194.) The Oracle8 Primer discloses that SQL can be embedded in the Java, C, and C++ programming languages, thus allowing each of these languages to access data

in a database. (Ex. 1013, Oracle8 Primer at 93, 95, 103, 108, 118, 277, 280, 281, 294, and 301.)

Oracle Primer and Oracle8 Primer are combinable with Coad for the reasons stated in Section V.A.16. (*See also* Ex. 1015, ¶ 115.)

D. Claims 1-3 and 5 Are Anticipated by Antis (U.S. Patent No. 5,572,650)

1. Claim 1

Claim 1 is anticipated by Antis as indicated below.

1. An integrated development environment, comprising:
Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 125-127.) To the extent the preamble is considered a limitation to the claim,[3] Antis discloses a relational database analysis system including a plurality of software development features, at col. 2, lines 25-29; col. 3, lines 23-30; and Abstract: "Therefore, there is a long felt need in the art for a method and apparatus for displaying characteristics of a database without semantic information such that explicit and implicit data structures can be readily observed to facilitate *use, development and maintenance of large databases.*" (Antis at col. 2, lines 25-29, emphasis added.) "Referring now to FIG. 1, a block diagram of an example of a relational database analysis system 101 is shown. The system 101 includes terminal 103,

[3] *See* MPEP § 2111.02 Effect of Preamble ("The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case").

which provides output to and receives input from a user of the system, processor 113, which performs the actual analysis operations, memory system 115, which contains programs 117 executed by processor 113 and relations 119cI19i, each of which contains a respective set of attributes and tuples." (*Id.* at col. 3, lines 23-30.)

"A method and apparatus for visually displaying structural characteristics of a large database for visualizing areas where new developments may be added, or finding places where old developments may need to be re-structured or replaced." (*Id.* at Abstract.)

[1.1] a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;

Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 128-131.) At col. 9, lines 45-46, Antis discloses the use of Cscope, a "well known code browser," to retrieve source code programmed using one of a plurality of types of data manipulation languages.

"[T]he source code references to the relations are extracted from a Cscope database (Cscope is a well known code browser)."

Antis also discloses an "over view" display 201 of the relational database analysis system, which is described at col. 4, lines 2-3, and depicted at Fig. 2:

"Display 201 is an over view, which is the highest view level of the large relational database."

The over view can be used to retrieve source

code via a plurality of different methods. For example, as illustrated in Fig. 2, the display 201 of the over view includes activity buttons near the top of the GUI window. The activity buttons allow different views of the relational database analysis system to be invoked, including a "code view." From the code view, the aforementioned Cscope code browser is used to retrieve source code:

"Across the top of display 201 are a number of activity buttons which may be activated by the cursor to provide additional information about the selected relation, in this case relation RLls_lnk. The buttons are labeled: Assocs (abbreviation for Associations), Paths, Code, PRL (abbreviation for Population Rule Language, commonly referred to as the Specification View), Layout, Relations List, Domains, Entity, and Distance. *Each of these buttons, except Distance, may be used to open another window on the screen 105 (see FIG. 1) which displays another view of the relational database under analysis.*" (Antis at col. 4, line 60 to col. 5, line 3, emphasis added.)

Source code can also be retrieved from the over view by selecting one of the relations displayed in the over view display 201. As disclosed at col. 7, lines 32-35, based on the relation selected in the over view, source code that accesses the selected relation is retrieved:

"The code view displays the application source code of the RDBMS that uses the currently selected relation, in this case relation RLls_lnk."

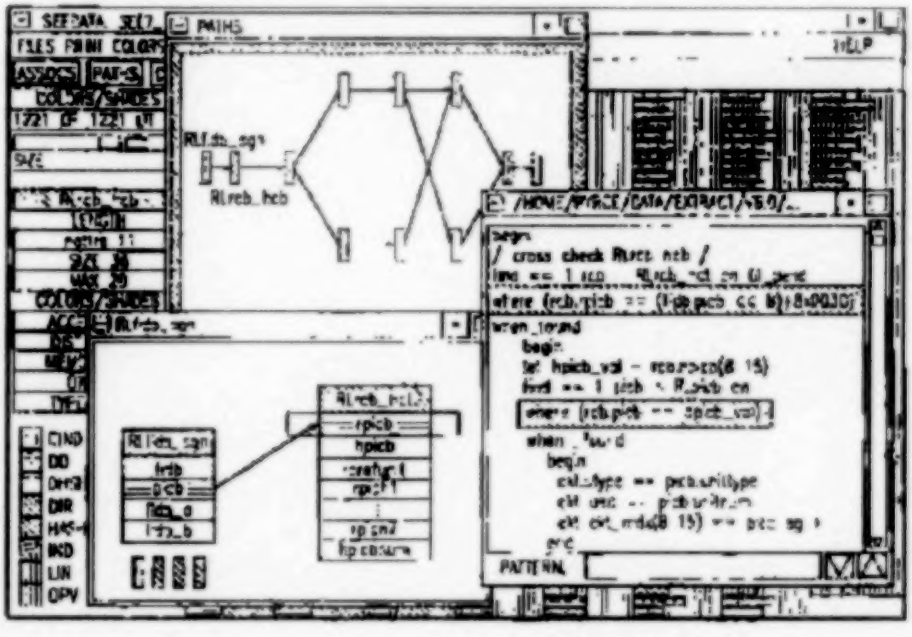
Additionally, in documents filed in the related litigation, Complementsoft has conceded that

this claim element is disclosed in Antis. (Ex. 1016 at 3.)

[1.2] an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 132-134.) Antis discloses an editor for displaying and editing retrieved source code in an "expanded code view," as illustrated at the bottom right hand corner of Fig. 12 and as described at col. 8, lines 63-66:

FIG. 12



"FIG. 12 shows an over view, a relations view, a path view and an expanded code view all displayed in partially overlapping windows on a display screen."

The expanded code view is used to edit the retrieved source code. Antis discloses that changes made in any of the disclosed views (*e.g.*, edits to the source code made in the expanded code view or a definition of a new

object) cause corresponding changes in the other views, at col. 9, lines 17-28:

"The overall view is purely structural without semantic details to clutter it. If semantic details are desired, they are available in views called the specification view and the code view. If further structural details of a particular relation are desired, further details are available in the associations view, the path view, the code view and the domain view. *The linking of the views makes them interactive with each other such that changes to one view causes corresponding changes in the other actively linked views. This not only speeds up analysis, but also gives the user a chance to analyze the effects of any changes, e.g. definition of a new object, on the relational database system.*" (Emphasis added.)

[1.3.1] a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and

Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 135-137.) At col. 9, lines 35-41, Antis discloses a parser layer based on the YACC computer program. The parser layer disclosed in Antis can be used for "any type of database" and is thus used to detect any of a plurality of data manipulation languages having "a YACC grammar":

"*For any type of database*, the associations could be extracted from the database query language with an A * version (A* is a combination of pattern matching that is based on AWK, and parsing that is based on YACC which allows AWK style pattern matching to be applied to grammar productions of *a language*

specified with a YACC grammar) built for that language grammar." (Emphasis added.) ***See also id.* at col. 5, lines 4-8, disclosing applicability of the relational database analysis system to multiple different data manipulation languages:** "Referring now to FIG. 3, a display 301 is shown on display screen 105 that is called the specification view. In the specification view the actual specification(s) of the database *in the database description language or languages that are understood by the RDBMS may be directly viewed.*" (Emphasis added.) **Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Antis. (Ex. 1016 at 3.)**
[1.3.2] [the parser layer] which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and
Antis discloses this claim element. (*See* Ex. 1015, ¶ 138.) Antis discloses that the parser layer based on the YACC computer program activates rules and logic for a detected one of the plurality of types of languages. *See* Antis at col. 9, lines 35-41, reproduced above for element 1.3.1. Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Antis. (Ex. 1016 at 3.)
[1.4] a visualizer dynamically linked to the editor for displaying graphical representations of flows within

the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser,
Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 139-146.) Antis discloses a visualizer for displaying graphical representations of flows within the retrieved source code in a "code view," as illustrated at Fig. 8 and as described at col. 7, lines 31-45. Specifically, the code view provides a graphical display of flow in the retrieved source code by providing a visual representation of the data within the relational database (*i.e.*, the relations) that are accessed by the retrieved source code. The code view also depicts a graphical display of flow by providing a visual representation of which pieces of source code are executed for a selected relation, where the relation is selected via the over view display described above: "Referring now to FIG. 8, a display 801 is shown on display screen 105 that is called the code view. The code view displays the application source code of the RDBMS that uses the currently selected relation, in this case relation RLls_lnk. *The application source code may be represented as a horizontal tree representing the code hierarchy. The subset or subsets of that horizontal code tree that use the currently selected relation are displayed in the code view. The code view may be used by the user to find the 40 application source code which references a relation and also to find where in the application source code the relation is accessed. The code view is linked to the over view such that all relations accessed from a unit*

of application code may be easily identified. Each unit of application code is represented 45 by a box in the code view." (Emphasis added.)

The code view of Antis further discloses a graphical representation of flow within the retrieved code at col. 7, lines 51-53. This portion discloses that clicking on a code box (*i.e.*, an icon associated with a particular piece of source code) produces a visual representation of the data in the relational database (*i.e.*, the relations) that are accessed by the particular piece of source code:

"Clicking the mouse button on a code box highlights in the over view all relations that use the corresponding unit of code."

Antis further discloses a graphical representation of flows within the retrieved source code at col. 7, lines 57-61. This portion discloses that a parallel flow of execution is displayed in the code view if the retrieved source code is executed on multiple processors (*i.e.*, the code view display will be changed depending on the number of processors executing the retrieved source code, thus providing a graphical display of the flow of execution for the code):

"For the purposes of the code view, application code executing on multiple separate processors in a distributed system is considered to be multiple separate applications, each of which may be examined as a separate code sub-tree."

[1.5] wherein the editor, parser layer and visualizer cooperate such that edits made to the source code

using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.
Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 147-149.) Antis discloses that the various views (*i.e.*, the over view, code view, etc.) of the of the relational database analysis system are linked, such that changes made in one view are automatically made in the other linked views, at col. 9, lines 17-28: "The overall view is purely structural without semantic details to clutter it. If semantic details are desired, they are available in views called the specification view and the code view. If further structural details of a particular relation are desired, further details are available in the associations view, the path view, *the code view* and the domain view. *The linking of the views makes them interactive with each other such that changes to one view causes corresponding changes in the other actively linked views.* This not only speeds up analysis, but also gives the user a chance to analyze the effects of any changes, *e.g.* definition of a new object, on the relational database system." (Emphasis added.)

2. Claim 2

Claim 2 is anticipated by Antis as indicated below.

2. The integrated development environment as recited in claim 1, wherein the graphical representations of flows depict data flows.

Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 150-153.) The code view of Antis discloses graphical representations of data flows within the retrieved source code, as described at col. 7, lines 31-45 (reproduced above for element 1.4 of claim 1). Specifically, the code view provides a visualization of data flows in the retrieved source by providing a visual representation of which pieces of source code access which data in the relational database.

3. Claim 3

Claim 3 is anticipated by Antis as indicated below.

3. The integrated development environment as recited in claim 1, wherein the graphical representations of flows depict program flows.

Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 154-157.) The code view of Antis discloses graphical representations of program flows within the retrieved source code, as described at col. 7, lines 31-45 (reproduced above for element 1.4 of claim 1). Specifically, the code view provides a visualization of program flows in the retrieved source by providing a visual representation of which pieces of source code are executed for a selected relation of the database. Antis further discloses a graphical representation of program flows at col. 7, lines 57-61. This portion discloses that a parallel flow of execution (*i.e.*, program flows) is displayed in the code view if the retrieved source code is executed on multiple processors:

"For the purposes of the code view, application code executing on multiple separate processors in a distributed system is considered to be multiple separate applications, each of which may be examined as a separate code sub-tree." (Antis at col. 7, lines 57-61.)

4. Claim 5

Claim 5 is anticipated by Antis as indicated below.

5. The integrated development environment as recited in claim 1, wherein the document manager retrieves all files related to the source code to be edited.

Antis discloses this claim element. (*See* Ex. 1015, ¶¶ 158-161.) At col. 7, lines 31-35, Antis discloses that the code view is used to retrieve source code related to a relation that is selected in the over view. Further, as explained above with reference to claim 1, the expanded code view of Antis depicted in Fig. 12 allows the retrieved code to be edited:

"Referring now to FIG. 8, a display 801 is shown on display screen 105 that is called the code view. The code view displays the application source code of the RDBMS that uses the currently selected relation, in this case relation RLls_lnk."

Further, at col. 7, lines 39-44, Antis discloses that all pieces of source code related to the selected relation are retrieved:

"The code view may be used by the user to find the 40 application source code which references a relation and also to find where in the application source code

the relation is accessed. The code view is linked to the over view such that all relations accessed from a unit of application code may be easily identified." **Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Antis. (Ex. 1016 at 5.)**

E. Claims 1-3, 5, 6, 8, 10-12, 15, and 16 Are Obvious Over Antis in View of Coad

1. Claim 1

As discussed above, Antis discloses all limitations of claim 1. To the extent it could be argued that any further disclosure may be required with respect to limitations 1.2, 1.4, and 1.5, Coad provides such further disclosure as follows.

[1.2] an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 88-89.) Coad discloses an incremental code editor (ICE) for displaying and editing retrieved source code. *See* Coad at col. 4, lines 54-60, reproduced above for element 1.2 of claim 1. Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Coad. (Ex. 1016 at 18.)
[1.4] a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types

of data manipulation languages and activated by the parser,
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 93-107.) Coad discloses a viewer (*i.e.*, visualizer) for displaying graphical representations of flows in source code at col. 16, line 57 to col. 17, line 47, reproduced above for element 1.4 of claim 1. Further, Figs. 11 – 17 of Coad depict aspects of the viewer for displaying graphical representations of flows in source code. For example, Fig. 16 is an example of a graphical representation of flow disclosed in Coad, where a statechart diagram 1600 depicts the sequence of states 1602 that an object or interaction goes through during its life in response to stimuli.
[1.5] wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 108-110.) Coad discloses a software development tool that allows a developer to simultaneously view a graphical representation and a text representation of source code. (*See, e.g.* Coad at Abstract and Fig. 2.) The graphical and textual views are synchronized such that modifications made to one view are automatically reflected in the other view, as

disclosed at col. 4, line 61 to col. 5, line 3 (reproduced above for element 1.5 of claim 1).

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) The proposed ground of unpatentability based on Antis and Coad is included because Coad provides additional details on the visualization of flow that are not provided in Antis. The proposed ground of unpatentability is further included because the Office previously found that Coad disclosed these claim limitations, and this finding was not disputed by Complementsoft. (Ex. 1002, Office Action dated May 31, 2005, at 3, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

2. Claim 2

As discussed above, Antis discloses all limitations of claim 2. To the extent it could be argued that any further disclosure may be required with respect to the limitations of claim 2, Coad provides such further disclosure as follows.

2. The integrated development environment as recited in claim 1, wherein the graphical representations of flows depict data flows.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 168-171.) Coad discloses a visualizer for displaying graphical representations of data flows at col. 16, line 57 to col. 17, line 47, reproduced above for element 1.4 of claim 1.

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-

167.) The proposed ground of unpatentability based on Antis and Coad is included because Coad provides additional details on the visualization of data flow that are not provided in Antis. The proposed ground of unpatentability is further included because the Office previously found that Coad disclosed this claim limitation, and this finding was not disputed by Complementsoft. (Ex. 1002, Office Action dated May 31, 2005, at 4, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

3. Claim 3

As discussed above, Antis discloses all limitations of claim 3. To the extent it could be argued that any further disclosure may be required with respect to the limitations of claim 3, Coad provides such further disclosure as follows.

3. The integrated development environment as recited in claim 1, wherein the graphical representations of flows depict program flows.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 172-175.) Coad discloses a visualizer for displaying graphical representations of program flows at col. 16, line 57 to col. 17, line 47, reproduced above for element 1.4 of claim 1.

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) The proposed ground of unpatentability based on Antis and Coad is included because Coad provides additional details on the visualization of program flow that are not provided in Antis. The proposed ground of unpatentability is further included because the Office previously found that Coad disclosed this

claim limitation, and this finding was not disputed by Complementsoft. (Ex. 1002, Office Action dated May 31, 2005, at 4, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

4. Claim 5

Claim 5 depends from claim 1, which, as discussed above, is obvious over Antis in view of Coad. As explained in Section V.D.4, Antis discloses the additional limitations in claim 5, which accordingly is obvious over Antis in view of Coad. (*See* Ex. 1015, ¶ 176.)

5. Claim 6

Claim 6 depends from claim 1, which, as discussed above, is (1) anticipated by Antis and (2) obvious over Antis in view of Coad. Coad discloses the additional limitations in claim 6, which accordingly is obvious over Antis in view of Coad.

6. The integrated development environment as recited in claim 1, wherein the document manager comprises a site manager and a connectivity layer for retrieving source code from one or more remote computers.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 177-180.) At col. 5, lines 31-49, Coad discloses that an incremental code editor (ICE) (*see, e.g.*, Fig. 2 and col. 4, line 58) includes site manager and connectivity layer functionality for retrieving source code from remote computers over the Internet: "FIG. 6 depicts a data processing system 600 suitable for practicing methods and systems consistent with the present invention. Data processing system 600

comprises a memory 602, a secondary storage device 604, an I/O device 606, and a processor 608. Memory 602 includes the improved software development tool 610. The software development tool 610 is used to develop a software project 612, and create the TMM 200 in the memory 602. The project 612 is stored in the secondary storage device 604 of the data processing system 600. One skilled in the art will recognize that data processing system 600 may contain additional or different components.

Although aspects of the present invention are described as being stored in memory, one skilled in the art will appreciate that these aspects can also be stored on or read from other types of computer-readable media, such as secondary storage devices, like hard disks, floppy disks or CD-ROM; a carrier wave from a network, such as Internet; or other forms of RAM or ROM either currently known or later developed."

Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Coad. (Ex. 1016 at 20-21.)

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) During prosecution, the Office found that Coad disclosed this claim limitation, and Complementsoft did not dispute this finding. (Ex. 1002, Office Action dated May 31, 2005, at 4, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

6. Claim 8

Claim 8 depends from claim 1, which, as discussed above, is (1) anticipated by Antis and (2) obvious over Antis in view of Coad. Coad discloses the additional limitations in claim 8, which accordingly is obvious over Antis in view of Coad.

8. The integrated development environment as recited in claim 1, wherein the editor comprises a template manager for allowing preprogrammed segment of source code to be placed within the source code being edited.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 181-185.) At col. 16, lines 4-9, Coad discloses "a collection of generalized definitions for the particular language that can be used to build [a] data structure." The generalized definitions include "default code" that can be placed within source code being edited. "The software development tool then obtains a template for the current programming language, *i.e.*, a collection of generalized definitions for the particular language that can be used to build the data structure (step 904). For example, the definition of a new Java class contains a default name, *e.g.*, 'Class1,' and the default code, 'public class Class1 {}.' Such templates are well known in the art."

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.)

7. Claim 10

Claim 10 depends from claim 8, which, as discussed above, is obvious over Antis in view of Coad. Coad discloses the additional limitations in claim 10, which accordingly is obvious over Antis in view of Coad.

10. The integrated development environment as recited in claim 8, wherein the template manager is adapted to automatically generate segments of the source code.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 186-190.) Coad discloses that the template manager is configured to automatically generate segments of source code. *See* Coad at col. 16, lines 4-9, reproduced above for claim 8.

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.)

8. Claim 11

Claim 11 depends from claim 1, which, as discussed above, is (1) anticipated by Antis and (2) obvious over Antis in view of Coad. Coad and Antis disclose the additional limitations in claim 11, which accordingly is obvious over Antis in view of Coad.

11. The integrated development environment as recited in claim 1, further comprising a means for allowing the source code to be executed both locally and remotely.
Coad and Antis disclose this claim element. (*See* Ex. 1015, ¶¶ 191-195.) Coad discloses that

the ICE editor includes functionality for allowing retrieved source to be executed locally (*i.e.*, from a local memory) or remotely (*i.e.*, via the Internet). *See* Coad at col. 5, lines 31-49, reproduced above for claim 6. Further, at col. 7, lines 55-61, Antis discloses a distributed system with remote execution of source code:

"If there are multiple applications that use the same relation, the result will be multiple code sub-trees in the code view, as sub-trees 805 and 809. For the purposes of the code view, application code executing on multiple separate processors in a distributed system is considered to be multiple separate applications, each of which may be examined as a separate code sub-tree."

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) During prosecution, the Office found that Coad disclosed this claim limitation. (Ex. 1002, Office Action dated May 31, 2005, at 4.)

9. Claim 12

Claim 12 depends from claim 11, which, as discussed above, is obvious over Antis in view of Coad. Coad discloses the additional limitations in claim 12, which accordingly is obvious over Antis in view of Coad.

12. The integrated development environment as recited in claim 11, wherein the parser layer further examines error log files generated by the means for allowing the source code to be executed to determine segments of the source code determined to include

errors.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 196-201.) At col. 9, line 66 to col. 10, line 5, Coad discloses a quality assurance (QA) module for detecting segments of source code containing errors. If the QA module determines that the source code "does not conform, an error message is provided to the developer" (*see* Coad at col. 14, lines 64-65): "The QA module also provides audits, *i.e.*, the module checks for conformance to predefined or user-defined styles. The types of audits provided by the module include coding style, critical errors, declaration style, documentation, naming style, performance, possible errors and superfluous content. Examples of these audits with their respective definitions are identified in Tables 10-17 below." ***See also* Coad at col. 10, line 8 to col. 14, line 63, disclosing Tables 10-17, including examples of coding style audits, critical error audits, and declaration style audits, among others.**

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) During prosecution, the Office found that Coad disclosed this claim limitation. (Ex. 1002, Office Action dated May 31, 2005, at 4.)

10. Claim 15

Claim 15 depends from claim 12, which, as discussed above, is obvious over Antis in view of Coad. Coad discloses the additional limitations in

claim 15, which accordingly is obvious over Antis in view of Coad.

15. The integrated development environment as recited in claim 12, further comprising a message manager cooperating with the parser layer for displaying debugging hints as a function of the source code segments determined to have errors.
Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 202-208.) Coad discloses a quality assurance (QA) module for determining segments of source code including errors. *See* Coad at col. 9, line 66 to col. 10, line 5, reproduced above for claim 12. At col. 14, line 64 to col. 15, line 16, Coad further discloses that if errors in the source code are detected by the QA module, an error message is provided to the developer: "If the QA module determines that the source code does not conform, an error message is provided to the developer. For example, as depicted in FIG. 8A, the software development tool checks for a variety of coding styles 800. If the software development tool were to check for 'Access Of Static Members Through Objects' 802, it would verify whether static members are referenced through class names rather than through objects 804. Further, as depicted in FIG. 8B, if the software development tool were to check for 'Complex Assignment' 806, the software development tool would check for the occurrence of multiple assignments and assignments to variables within the same expression to avoid complex assignments since these decrease program readability 808. An example of source code having a complex assignment 810 and

source code having a non-complex assignment 812 are depicted in FIGS. 8B and 8C, respectively. The QA module of the software development tool scans the source code for other syntax errors well known in the art, as described above, and provides an error message if any such errors are detected."

At Fig. 8B, Coad discloses a message manager for displaying debugging hints for a variety of errors. As illustrated in Fig. 8B, the errors include, for example, "Complex Assignment" and "Don't Use the Negation Operator Frequently" errors. An example debugging hint is illustrated in Fig. 8B ("Tip: Break statement into several ones.").

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) During prosecution, the Office found that Coad disclosed this claim limitation, and this finding was not disputed by Complementsoft. (Ex. 1002, Office Action dated May 31, 2005, at 4, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

11. Claim 16

Claim 16 depends from claim 15, which, as discussed above, is obvious over Antis in view of Coad. Coad discloses the additional limitations in claim 16, which accordingly is obvious over Antis in view of Coad.

16. The integrated development environment as recited in claim 15, wherein the message manager allows a user to edit and maintain debugging hints for a variety of different errors.

Coad discloses this claim element. (*See* Ex. 1015, ¶¶ 209-213.) At Fig. 8B, Coad discloses a message manager that maintains debugging tips for a variety of errors. As illustrated in Fig. 8B, the errors include, for example, "Complex Assignment" and "Don't Use the Negation Operator Frequently" errors. Corresponding debugging tips are maintained for each of the errors.

Coad is combinable with Antis for the reasons stated in Section V.A.3. (*See also* Ex. 1015, ¶¶ 164-167.) During prosecution, the Office found that Coad disclosed this claim limitation, and this finding was not disputed by Complementsoft. (Ex. 1002, Office Action dated May 31, 2005, at 4, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

F. Claim 4 Is Obvious Over Antis in View of Coad and Burkwald (U.S. Patent No. 6,356,285)

Claim 4 depends from claim 1, which, as discussed above, is obvious over Antis in view of Coad. Burkwald discloses the additional limitations in claim 4, which accordingly is obvious over Antis in view of Coad and Burkwald.

4. The integrated development environment as recited in claim 1, wherein the graphical representations of data flows are expandable and collapsible.

Burkwald discloses this claim element. (*See* Ex. 1015, ¶¶ 214-217.) At col. 14, line 43 to col. 15, line 4, Burkwald discloses a software

visualization technique that allows a user to expand or collapse a displayed graphical representation of source code:

"In FIGS. 6-8, each bar 612 of the bar chart 610 represents one of the subsystems of the large systems 110 or one of the small systems 120 of the exemplary legacy software application. As shown in the bar chart 610 of FIGS. 6-8, the height of each bar 612 is proportional to the numbers of the programs 114 in each of the subsystems 116, sorted in decreasing order. For each program 114 in the legacy software application, the collapsed values list 620 shows both the McCabe complexity metric 622 and the McClure complexity metric 624, the total number of lines 626, and the total number of affected lines 628. It should be appreciated that, while FIGS. 6-8 show the collapsed values list 620 using the above-outlined metrics and statistical values for the software subsystem, the collapsed values list 620 can be used to show collapsed values for any metric and/or any statistic for which values have been obtained. That is, the analyst can interactively change the displayed metrics and statistics to any metric and/or statistic for which the analyst has generated data for the software application being displayed.

By manipulating the zoom bar 629 of the values list 620, the user can expand or collapse the values list 620 shown in FIG. 6 to control the height consumed by each line of data. In the views 600-800 shown in FIGS. 6-8, the values list 620 has been collapsed so that each line of data is shown as a one-pixel high row. Furthermore, the rows have been sorted in decreasing order according to the number of affected lines 628. The length of each row encodes the value

of the corresponding metric."

Burkwald is combinable with Antis and Coad for the reasons stated in Section V.A.5. (*See also* Ex. 1015, ¶ 218.) During prosecution, the Office found that Burkwald disclosed this claim limitation, and this finding was not disputed by Complementsoft. (Ex. 1002, Office Action dated May 31, 2005, at 4-6, and Ex. 1003, Amendment dated August 4, 2005, at 9-12.)

G. Claim 7 Is Obvious Over Antis in view of Coad and Eick (U.S. Patent No. 5,937,064)

Claim 7 depends from claim 6, which, as discussed above, is obvious over Antis in view of Coad. Eick discloses the additional limitations in claim 7, which accordingly is obvious over Antis in view of Coad and Eick.

7. The integrated development environment as recited in claim 6, wherein the document manager comprises a security layer for managing secure connections with the one or more remote computers.

Eick discloses this claim element. (*See* Ex. 1015, ¶¶ 219-223.) Eick discloses a "system and method for visual analysis of a database." (Eick at Abstract.) The disclosed system and method allow a variety of remote clients to access information from a database for the purpose of allowing the clients to perform interactive visualization of the database. At col. 4, lines 19-27, Eick discloses a security layer for managing secure connections with the remote clients:

"Two approaches may be used to permit only authorized access to the database or authorization to change the database. One approach from the web server side would be to pass data or access to the data base to the client upon showing the appropriate password. The other would be to have the CGI 22 scripts paths translated to pass encrypted data and make the data available and then pass the data to the applet which would then decide what data to show the client in view of establishing the appropriate security."

***See also id.* at claims 7 and 8:**

"7. The method of claim 6 in which said live document program includes a security subprogram which prevents display of at least one selected part of the data unless preselected security requirements are satisfied at the at least one computer terminal."

"8. The method of claim 7 including the step of selectively decoding encrypted data only if the preselected security requirements are satisfied."

Additionally, in documents filed in the related litigation, Complementsoft has conceded that this claim element is disclosed in Eick. (Ex. 1016 at 6.)

Eick is combinable with Antis and Coad for the reasons stated in Section V.A.9. (*See also* Ex. 1015, ¶ 224.)

H. Claim 9 Is Obvious Over Antis in view of Coad and "Building Applications"

Claim 9 depends from claim 8, which, as discussed above, is obvious over Antis in view of Coad.

"Building Applications" discloses the additional limitations in claim 9, which accordingly is obvious over Antis in view of Coad and "Building Applications."

9. The integrated development environment as recited in claim 8, wherein the template manager is adapted to automatically correct segments of the source code.
"Building Applications" discloses this claim element. (*See* Ex. 1015, ¶¶ 225-229.) At page 54, "Building Applications" discloses that "automatic syntax checking" may be enabled, which allows for syntax errors to be detected and corresponding error messages to be displayed: "Automatic syntax checking – As you move the insertion point off a line, Visual Basic checks the syntax of that line and displays a message if it finds an error. To enable automatic syntax checking, select the Auto Syntax Check check box on the Module tab of the Options dialog box (Tools menu)." **Further, at pages 52-53, "automatic statement building" is used to assist the user in writing source code by providing pre-written segments of source code that can be selected by the user. Thus, the automatic syntax checking informs the user of errors in the source code, and the automatic statement building provides segments of source code to the user, such that the errors can be automatically corrected:** "**Automatic statement building**. When you type certain Visual Basic elements, Microsoft Access automatically tries to assist you in writing code by

displaying a drop-down list of appropriate choices for the code element you've typed. For example, if you type an object variable, and follow it with a period to indicate that you intend to enter a method or property, Microsoft Access automatically displays a list of the methods and properties that apply to the object. . . . . To complete the statement you're typing, you can either click an item in the list or continue typing your code. If you continue typing code, the list displays the closest match to what you've typed. To enter the selected item in the list at any time, press TAB. To make the list disappear, press ESC."

"Building Applications" is combinable with Antis and Coad for the reasons stated in Section V.A.13. (*See also* Ex. 1015, ¶ 230.)

I. Claim 13 Is Obvious Over Antis in view of Coad and Corda (U.S. Patent No. 5,758,122)

Claim 13 depends from claim 12, which, as discussed above, is obvious over Antis in view of Coad. Corda discloses the additional limitations in claim 13, which accordingly is obvious over Antis in view of Coad and Corda.

13. The integrated development environment as recited in claim 12, wherein the visualizer cooperates with the parser layer to change the appearance of displayed flows as a function of the source code segments determined to have errors.

Corda discloses this claim element. (*See* Ex. 1015, ¶¶ 231-235.) Corda discloses an "immersive visual programming environment"

that "permits the flow of data objects and the interaction among the data objects to be visually displayed to the user." (Corda at Abstract.) Corda further discloses that if an error is detected in source code, the programming environment changes the appearance of the displayed flow:

"Once the programmer is satisfied that the program as constructed is complete, compilation provides visual and/or audio clues as to the nature and location of compiler errors." (Corda at col. 4, lines 30-32.)

"Semantic error detection is enhanced through observation of the flow of data and the motion of the structure itself. In this way, the virtual programming environment of the present invention supports verification and validation. Run-time error messages in the form of sight and sound alerts are provided, with the offending component highlighted in some way." (*Id.* at col. 4, lines 41-48.)

"A method for programming . . . , said method comprising the steps of . . . compiling the computer program while providing visual and audio clues to a user in response to a detected compiler error, said clues indicating a location and nature of the detected compiler error . . . ." (*Id.* at col. 13, lines 13-22.)

Corda is combinable with Antis and Coad for the reasons stated in Section V.A.11. (*See also* Ex. 1015, ¶ 236.)

J. Claim 14 Is Obvious Over Antis in view of Coad and Access 97 Visual Basic

Claim 14 depends from claim 12, which, as discussed above, is obvious over Antis in view of Coad. Access 97 Visual Basic discloses the additional limitations in claim 14, which accordingly is obvious over Antis in view of Coad and Access 97 Visual Basic.

14. The integrated development environment as recited in claim 12, wherein the editor cooperates with the parser layer to change the appearance of portions of the displayed source code as a function of the software segments determined to have errors.
Access 97 Visual Basic discloses this claim element. (*See* Ex. 1015, ¶¶ 237-241.) At page 140, Access 97 Visual Basic discloses that code determined to have an errors is highlighted or shown in red text: "Now that you've cleared away that message, you'll notice that the '<' symbol is highlighted – this is the point in the line that Microsoft Access doesn't like – and the line is still shown in red text."

Access 97 Visual Basic is combinable with Antis and Coad for the reasons stated in Section V.A.7. (*See* Ex. 1015, ¶ 242.)

K. Dependent Claims 2-16 Are Unpatentable Over Each Reference and Combination of References Asserted for Claim 1 in View of the Prior Art

To the extent that they are not explicitly enumerated above, Petitioner hereby asserts grounds of unpatentability for dependent claims 2-16 that are premised upon the respective prior art references

asserted for those dependent claims in view of the following ground of unpatentability for independent claim 1 asserted above: Claim 1 is obvious over Coad in view of Oracle Primer and Oracle8 Primer.

(*See* Ex. 1015, ¶¶ 243-244.)

VI. Mandatory Notices Pursuant to 37 C.F.R. § 42.8(a)(1)

Pursuant to 37 C.F.R. § 42.8(a)(1), the mandatory notices identified in 37 C.F.R. § 42.8(b) are provided below as part of this Petition.

A. C.F.R. § 42.8(b)(a): Real Party-In-Interest

SAS is the real party-in-interest for Petitioner.

B. C.F.R. § 42.8(b)(2): Related Matters

The '936 patent is currently the subject of a patent infringement lawsuit brought by the assignee of the '936 patent, Complementsoft LLC, against SAS, captioned *ComplementSoft, LLC v. SAS Institute Inc.*, Docket No. 1:12-cv-07372 (N.D. Ill. Sept 14, 2012). This judicial matter may affect, or be affected by, decisions made in this proceeding.

C. C.F.R. § 42.8(b)(3) and (4): Lead and Back-up Counsel and Service Information

SAS provides the following designation of counsel:

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Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney accompanies this Petition. Please address all correspondence to lead and back-up counsel at the address above. SAS also consents to electronic service by email at the email addresses listed above.

VII. Conclusion

For at least the reasons set forth above, Petitioner requests *inter partes* review of the '936 patent because it is more likely than not that at least one of the claims challenged in this Petition is unpatentable. It is therefore respectfully submitted that this Petition be granted and claims 1-16 of the '936 patent be judged invalid. Counsel for the Petitioner may be contacted at the below listed telephone number. As identified in the attached Certificate of Service and in accordance with §§

1.33(c), 42.205, and 42.300, a copy of the present Request, in its entirety, is being served on the patent owner at the correspondence address of record for the subject patent as reflected in the publicly-available records of the United States Patent and Trademark Office as designated in the Office's Patent Application Information Retrieval system.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this proceeding by this firm) to Jones Day Deposit Account No. 50-1432, ref: 343355-610009.

Respectfully submitted,

Date: March 29, 2013

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 7,110,936, along with all exhibits supporting and filed with the Petition, were served on March 29, 2013, via Express Mail delivery directed to the attorney of record for the patent at the following address:

Barry Horwitz
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EXHIBIT LIST

EXHIBIT NO.	TITLE
1001	U.S. Patent No. 7,110,936 ("the '936 Patent")
1002	Excerpt from the file history of the '936 Patent: May 31, 2005 Office Action
1003	Excerpt from the file history of the '936 Patent: August 4, 2005 Response to Office Action
1004	Excerpt from the file history of the '936 Patent: August 1, 2006 Supplemental Notice of Allowability
1005	U.S. Patent No. 5,572,650 ("Antis")
1006	U.S. Patent No. 6,851,107 ("Coad")
1007	U.S. Patent No. 6,356,285 ("Burkwald")
1008	U.S. Patent No. 5,937,064 ("Eick")
1009	"Microsoft Access 97 Visual Basic Step by Step" ("Access 97 Visual Basic")
1010	U.S. Patent No. 5,758,122 ("Corda")
1011	"Building Applications with Microsoft Access 97" ("Building Applications")
1012	Oracle Programming—A Primer ("Oracle Primer")
1013	Oracle8 Programming: A Primer ("Oracle8 Primer")

1015	Declaration of Dr. Nick Roussopoulos Under 37 C.F.R. § 1.68 in Support of Petition for *Inter Partes* Review of U.S. Patent No. 7,110,936
1016	Complementsoft's LPR 2.5 Initial Response to SAS Institute's Invalidity Contentions, *ComplementSoft, LLC v. SAS Institute Inc.*, Docket No. 1:12-cv-07372 (N.D. Ill. Sept 14, 2012)
1017	Declaration of Morris M. Jackson Under 37 C.F.R. § 1.68
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Supreme Court of the United States
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Washington, DC 20543-0001

Scott S. Harris
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May 22, 2017

Mr. Gregory A. Castanias
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Re: SAS Institute Inc.
v. Michelle K. Lee, Director, United States Patent and Trademark Office, et al.
No. 16-969

Dear Mr. Castanias,

The Court today entered the following order in the above-entitled case:

The petition for a writ of certiorari is granted.

Sincerely,
s/Scott S. Harris
Scott S. Harris, Clerk

Supreme Court, U.S.
FILED
JUL 20 2017
OFFICE OF THE CLERK

No. 16-969

IN THE

Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

JOSEPH MATAL, Interim Director, U.S. Patent and Trademark Office, and COMPLEMENTSOFT, LLC,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

JOINT APPENDIX VOLUME II OF II

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CERTIORARI GRANTED MAY 22, 2017

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(12) **United States Patent**
Hiew et al.

(10) **Patent No.: US 7,110,936 B2**
(45) **Date of Patent: Sep. 19, 2006**

(54) **SYSTEM AND METHOD FOR GENERATING AND MAINTAINING SOFTWARE CODE**

(75) Inventors: **Fen Hiew**, Mendota Heights, MN (US); **Edwin M. Schroeder**, Chicago, IL (US)

(73) Assignee: **Complementsoft LLC**, Chicago, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 923 days.

(21) Appl. No.: **09/992,624**

(22) Filed: **Nov. 19, 2001**

(65) **Prior Publication Data**

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Related U.S. Application Data

(60) Provisional application No. 60/270,950, filed on Feb. 23, 2001, provisional application No. 60/293,854, filed on May 25, 2001.

(51) **Int. Cl.**
G06F 9/45 (2006.01)

(52) **U.S. Cl.** **703/22**; 703/26; 717/100; 717/108; 717/134; 717/135

(58) **Field of Classification Search** 703/22; 717/108, 100, 134, 135; 345/700
See application file for complete search history.

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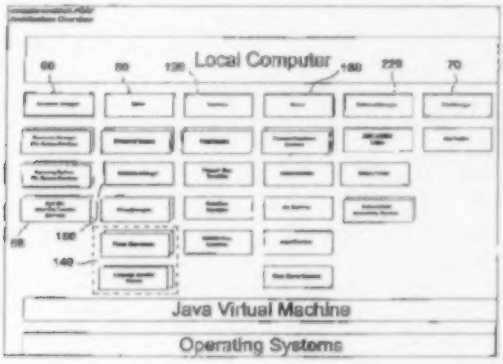
Primary Examiner—Fred Ferris
(74) *Attorney, Agent, or Firm*—Gary R. Jarosik

(57) **ABSTRACT**

A system and method for intelligently generating computer code. The system being comprised of a local computer, which is connected to a remote computer via a network system or the Internet and which is capable of exchanging files with the remote computer. The local computer is further comprised of a document manager for transferring files between the local computer and the remote computer and for providing enhanced file management functions. The document manager works in connection with the server module, the site manager and the connectivity layer to connect to remote computers, to transparently exchange files with the remote computer and to manage server profiles and connection information that is related to remote computers and transferred files. Once the file is transferred to the local computer, the editor can modify the code associated with the file; the editor is also capable of creating new files. The visualizer is capable of displaying a program flow diagram and a data flow diagram, which are comprised of program flow icons and data flow arrows to depict the code in terms of processing blocks and data blocks. To assist in developing new code or editing existing code, the template manager allows the user to browse through a directory of existing code sections or templates and to copy templates into the selected code for editing. For allowing the editor to process code that is written in different Data Management System programming languages and for creating the program flow icons, the parser layer detects the file type of a selected file and activates the rules and logic that apply to the corresponding Data Management System.

16 Claims, 42 Drawing Sheets



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* cited by examiner

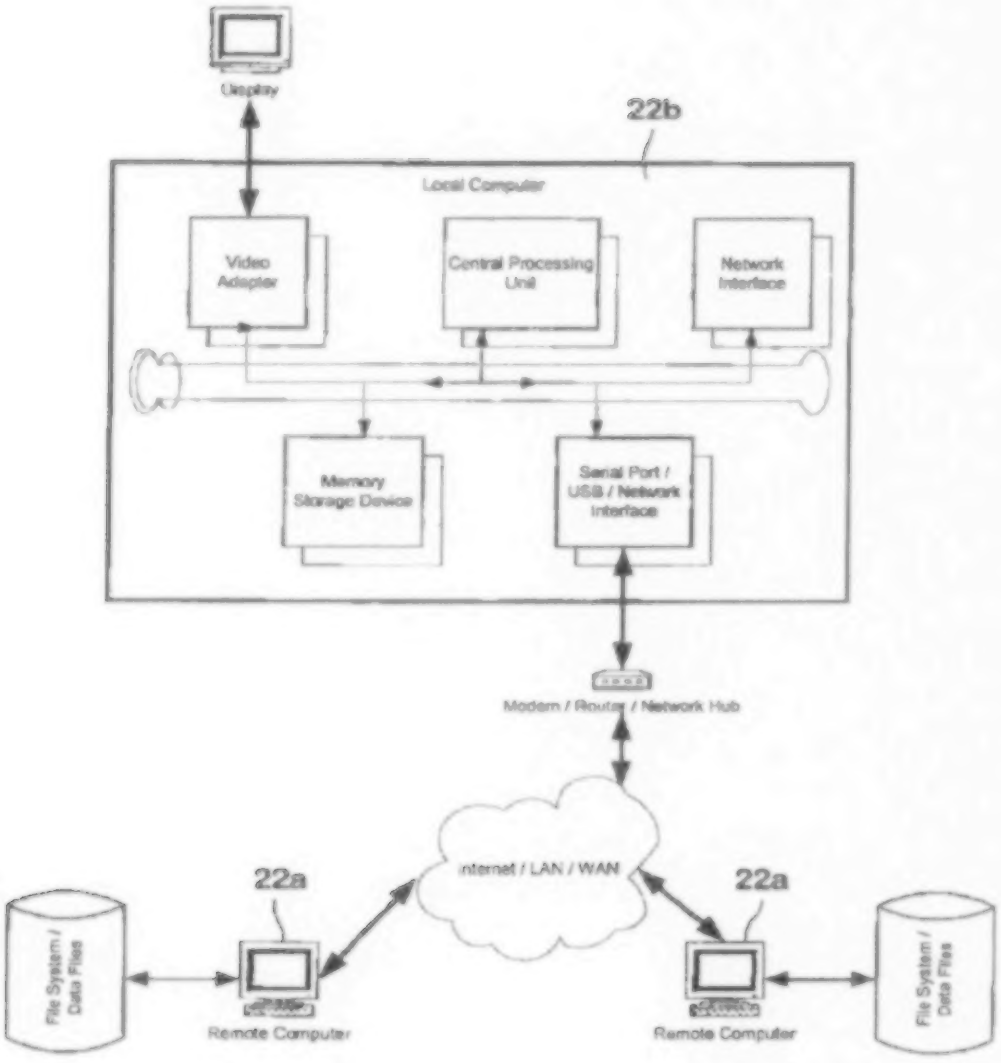

Display
22b
Local Computer
Video Adapter
Central Processing Unit
Network Interface
Memory Storage Device
Serial Port / USB / Network Interface
Modem / Router / Network Hub
Internet / LAN / WAN
22a
22a
File System / Data Files
Remote Computer
Remote Computer
File System / Data Files

FIG. 1

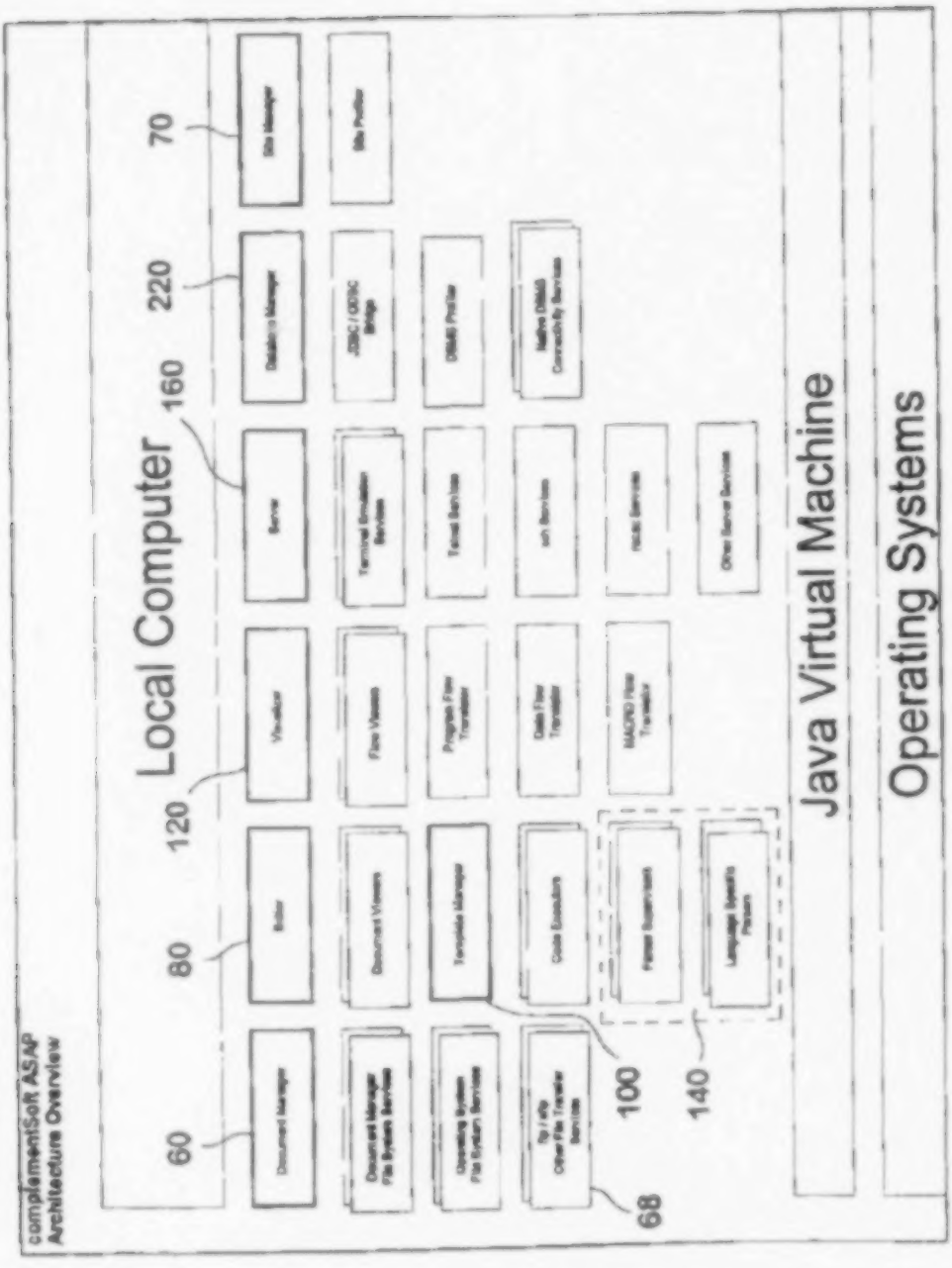
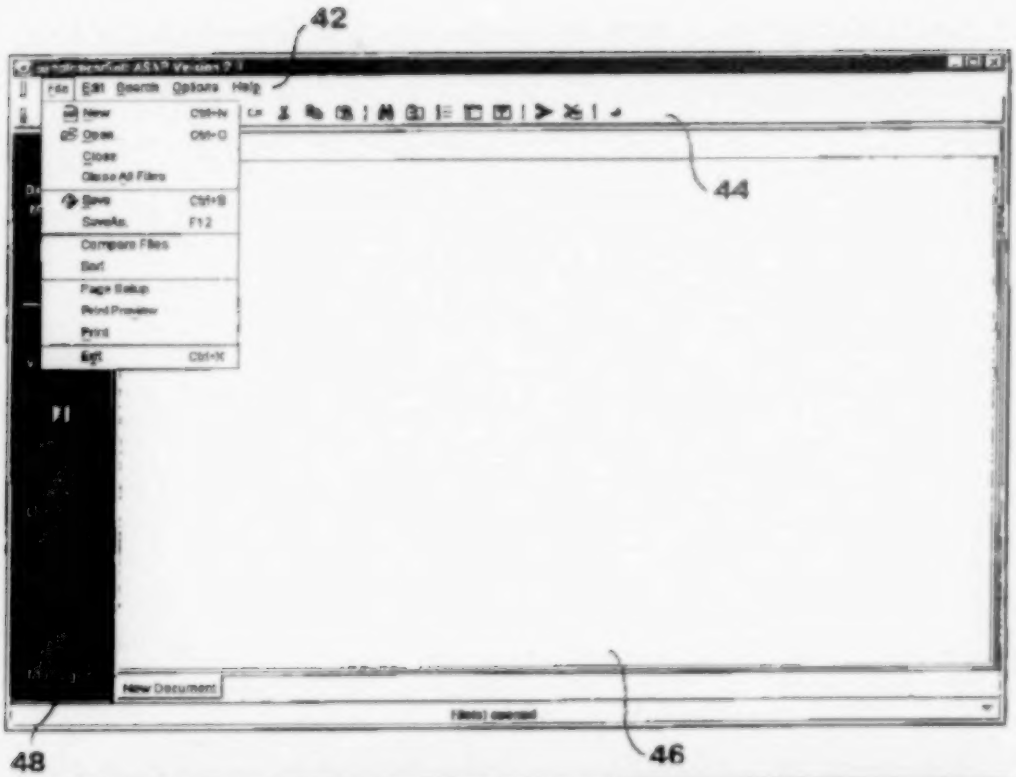

complementSoft ASAP
Architecture Overview
Local Computer
60
80
120
160
220
70
100
140
68
Java Virtual Machine
Operating Systems

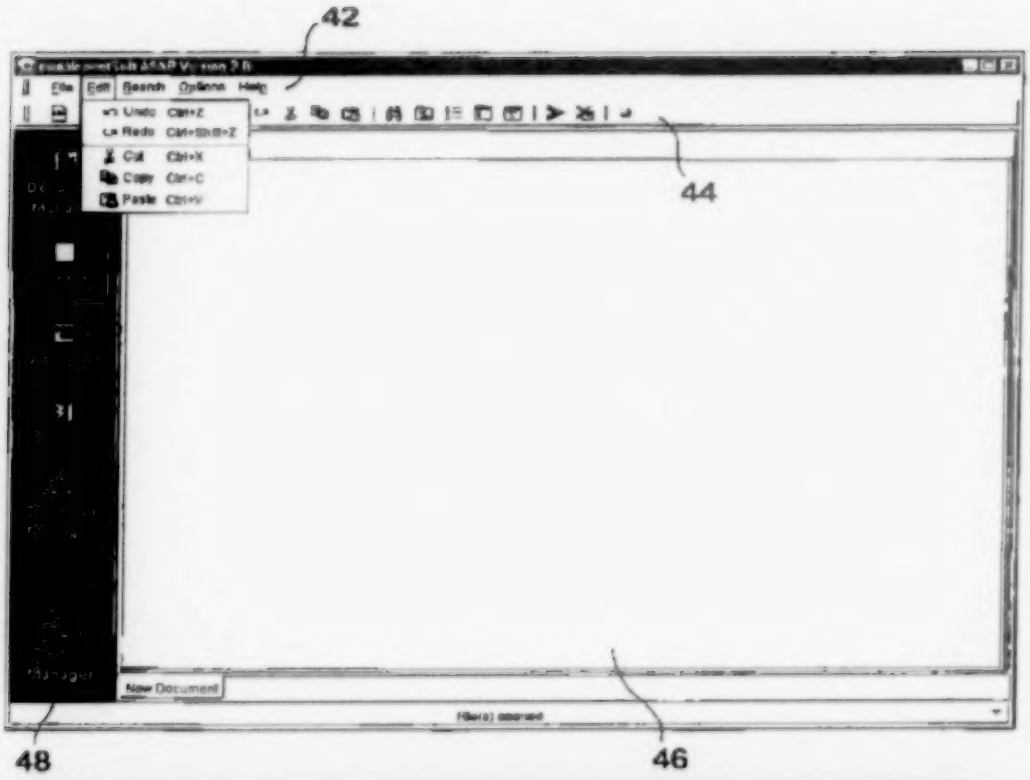
FIG. 2

FIG. 3



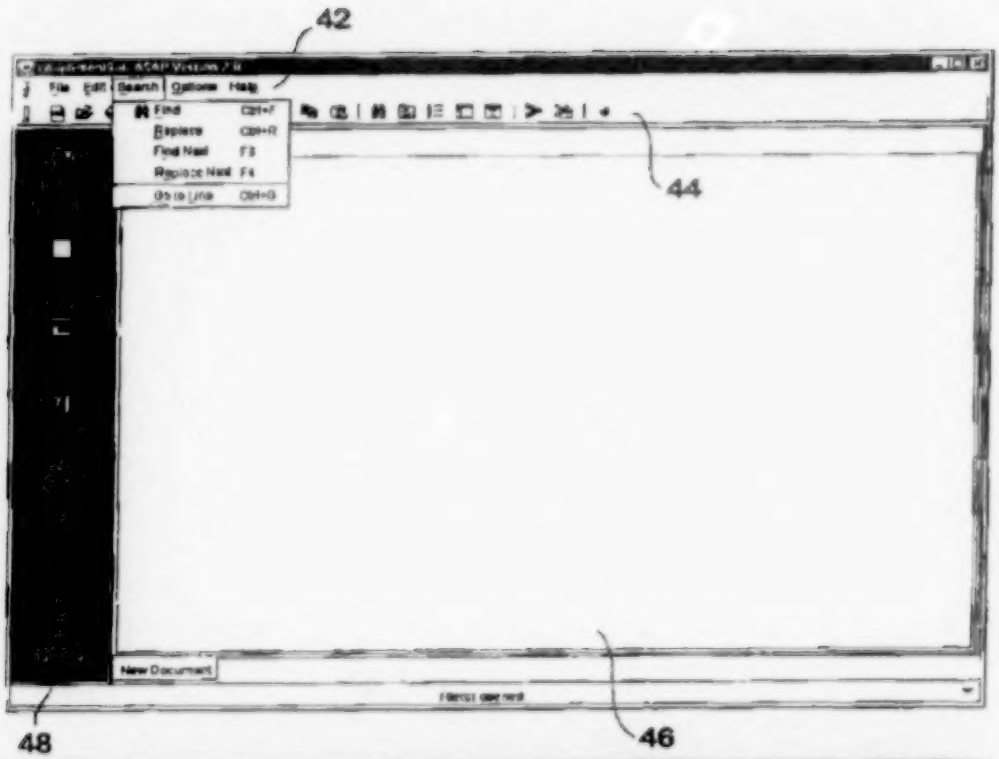
Menu Item	Functionality
New	Create a new document (a program)
Open	Open an existing document
Close	Close the currently opened document
Save	Save the currently open document
Save As	Save the currently open document using a different name or in a different location
Print Preview	Print Preview of the currently open (active) document
Print	Print the currently open (active) document
Exit	Exit the application

FIG. 4a



Menu Item	Functionality
Undo	
Redo	
Cut	
Copy	
Paste	

FIG. 4b



Menu Item	Functionality
Find	
Replace	
Find Next	
Replace Next	
Goto Line	Go to the n line in the currently active document

FIG. 4c

Menu Item	Functionality
Document Manager Configuration	Activate the Document Manager Configurator
Editor Configuration	Activate the Editor Configurator
Visual Configuration	Activate the Visual Configurator
Connection Configuration	Activate the Connection Configurator
Network File Configuration	Activate the Network File Configurator

FIG. 4d

Document Manager Configuration
General
Select the drive(s) to open in the local panel.
Local Drives:
A:\
C:\
D:\
E:\
OK
Cancel

FIG. 4da

Editor Configuration
General
Fonts
Color
Execute
84a
84b
84c
84d
84
Use external Editor
External Editor:
Disable line numbering
Print header information (Date File name Page number)
Print line numbers
Print wrapped text
Reset
OK
Cancel

FIG. 4db

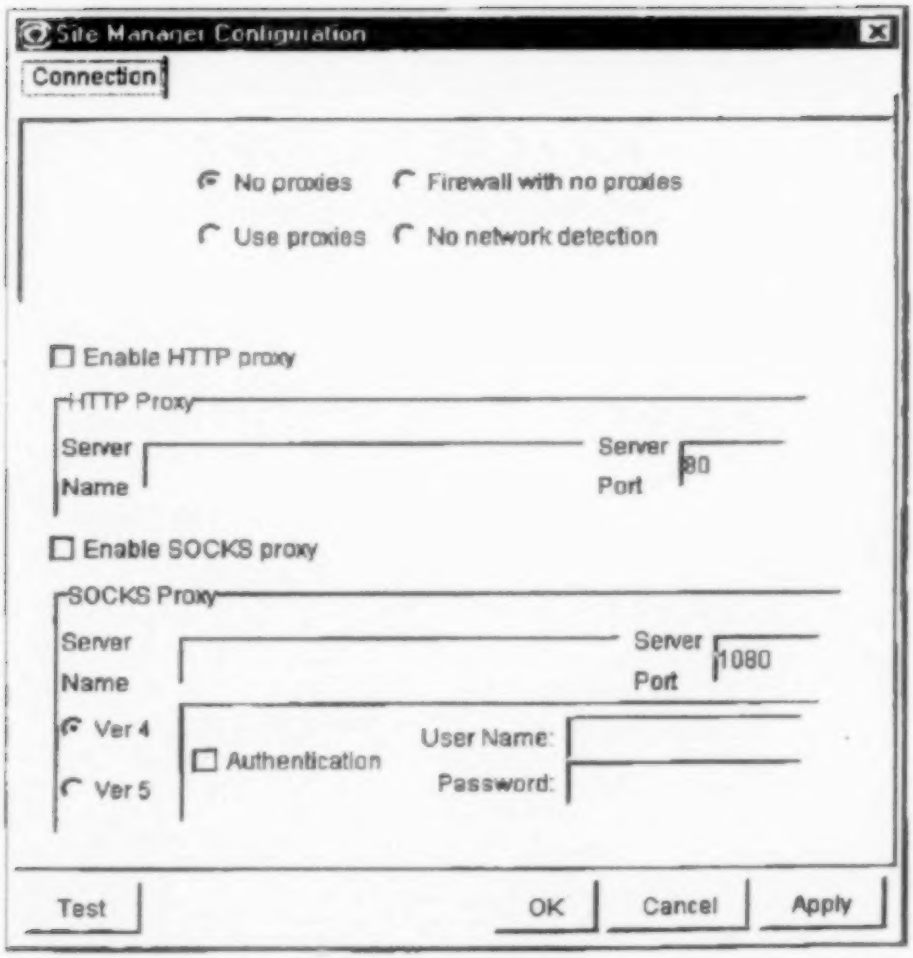

Site Manager Configuration
Connection
No proxies
Firewall with no proxies
Use proxies
No network detection
Enable HTTP proxy
HTTP Proxy
Server Name
Server Port
80
Enable SOCKS proxy
SOCKS Proxy
Server Name
Server Port
1080
Ver 4
Ver 5
Authentication
User Name:
Password:
Test
OK
Cancel
Apply

FIG. 4dc

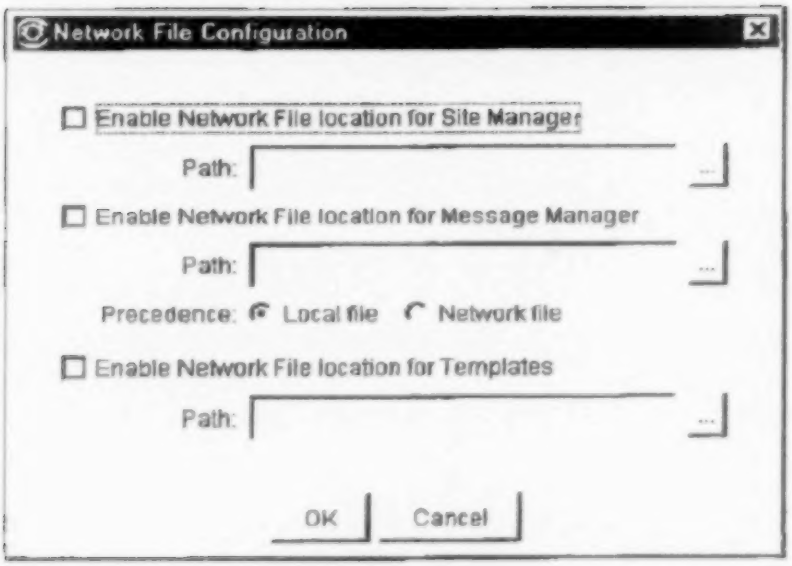
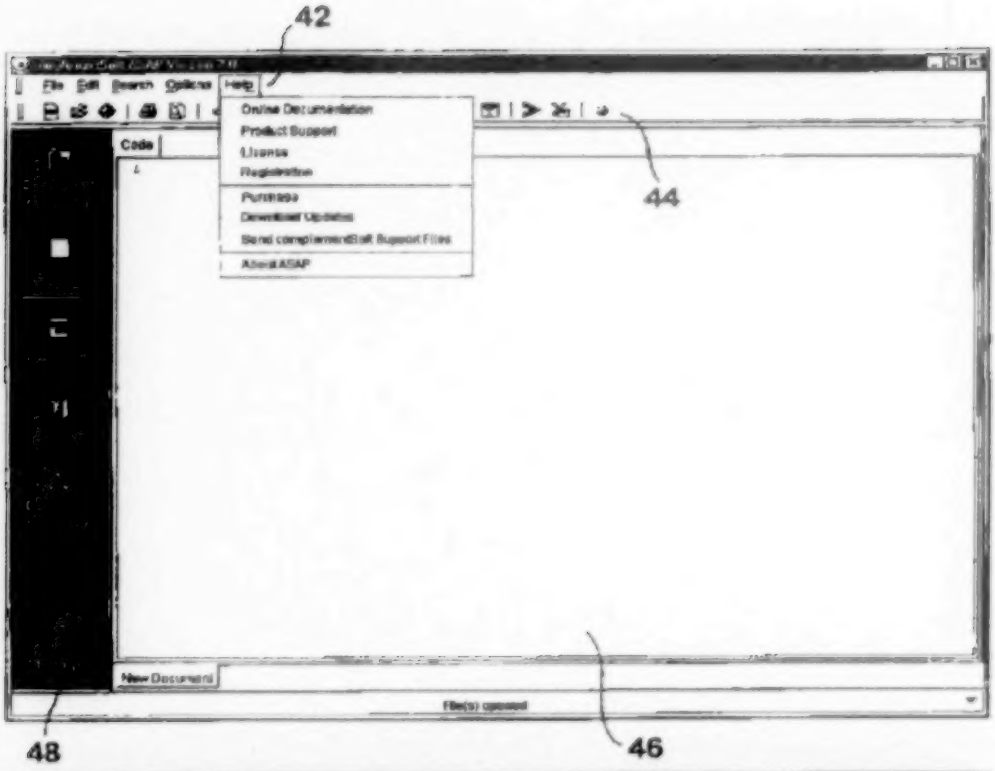

Network File Configuration
Enable Network File location for Site Manager
Path:
Enable Network File location for Message Manager
Path:
Precedence: Local file Network file
Enable Network File location for Templates
Path:
OK
Cancel

FIG. 4dd



Menu Item	Functionality
On-line Documentation	Show On-line Documentation
Product Support	Displays the Product Support Page with e-mail address, How to . . . and Frequently Asked Questions
License	Detailed license information with the ability to renew and/or upgrade the license
Registration	Perform on-line product registration
Purchase	Displays the complementSoft e-store
Download Updates	Retrieve Product Updates
Send complementsoft Support files	E-mail support files to complementSoft
About ASAP	Version and copyright information

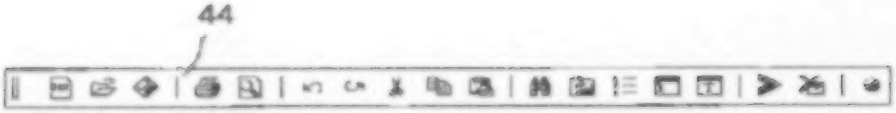
FIG. 4e

File Edit Search Options Help
Code
42
44
Redo
Cut
Copy
Paste
Find
Find Next
Replace
Replace Next
Close
Line numbering
Tree split
Templates
Edit Properties
Execute program
Toggle Break Points
Message Manager
New Document
48
46

FIG. 4f

Menu Item	Functionality
Undo	
Redo	
Cut	
Copy	
Paste	
Find	
Find Next	
Replace	
Replace Next	
Close	Close the currently active document
Line numbering	Turn line numbering on of off
Tree Split	Activate the Tree View split screen mode
Template Manager	Activate the Template Manager
Edit Properties	Edit the properties (timestamp, originating location, etc.) of the document
Execute Program	Execute the currently active program (i.e., the one that the user is currently editing) The user can further specify the execution mode (i.e., how to execute, with which option turn on/off, etc) and execution location (i.e., where to execute, which server, which execution engine, which location) If the user has previously activated Break-Point execution (see below), then the execution will be carried out based out the break-points, i.e., start at where the user indicate that it should start, end at where the user indicate that it should end and skipping statements as indicated by the user.
Toggle Break Points	Activate / deactivate Break-Point execution. Setup Break-Points if they have not been previously setup. Reset/Remove Break-Points if they have been previously setup
Message Manager	Activate the Message Manager to add, remove, or update the messages in the message repository

FIG. 4f (continued)



Menu Item	Functionality
New	
Open	
Save	
Print	
Print Preview	
Undo	
Redo	
Cut	
Copy	
Paste	
Find	Find a word
Refresh	Refresh the Editor display
Toggle Line Numbers	Show or hide line numbers
Toggle Tree View	Enable or disable Tree View
Template Manager	Activate the Template manager
Execute Program	Execute the currently active program
Close	Close the currently active program
Toggle Break Point Execution	Enable of disable Break Point Execution

FIG. 5

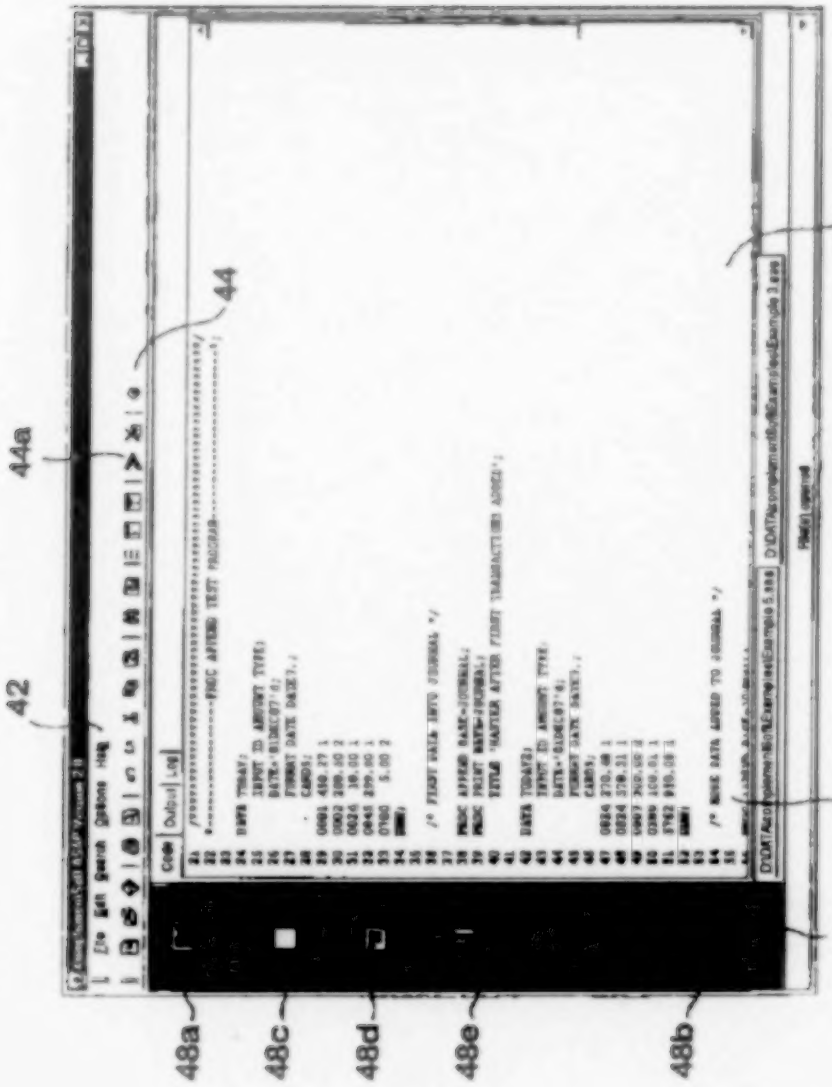


FIG. 6

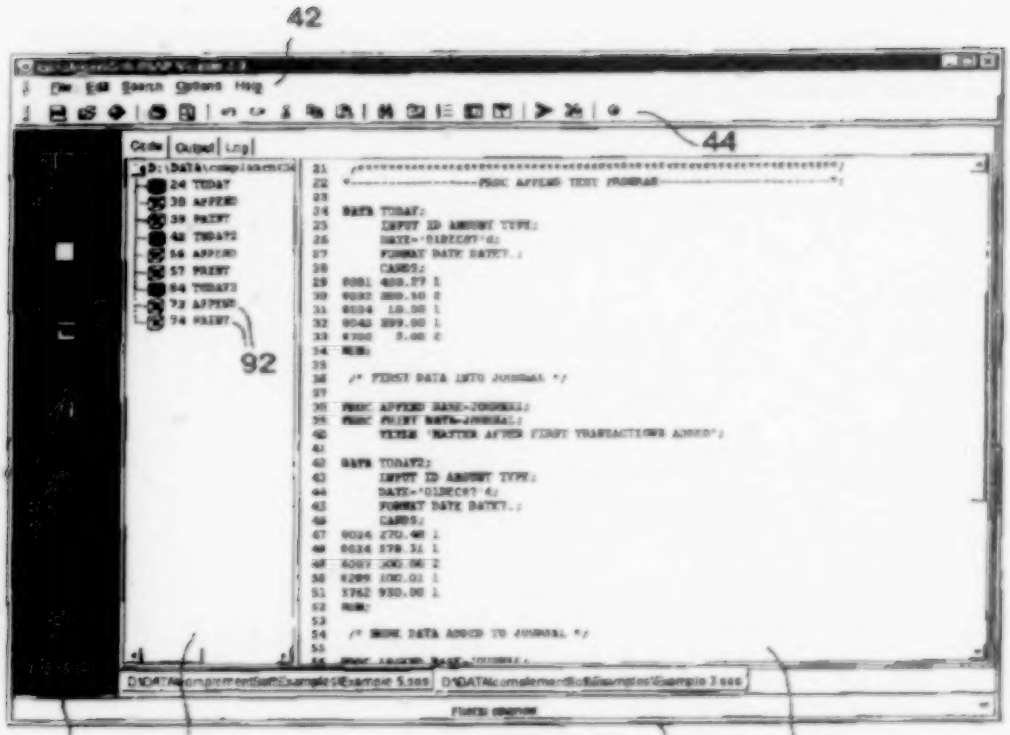


FIG. 7

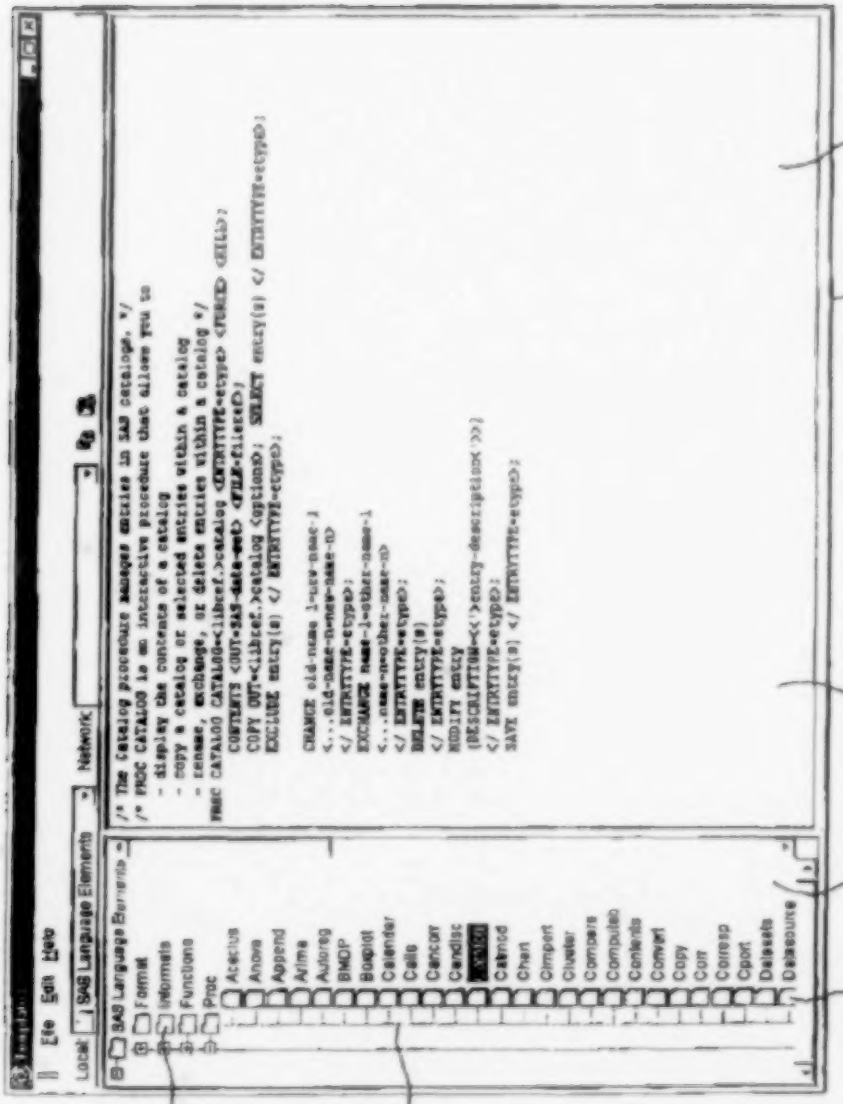

File Edit Help
Local
SAS Language Elements
Network
SAS Language Elements
Format
Informats
Functions
Proc
Datasets
Datasource
/* The Catalog procedure manages entries in SAS catalogs. */
/* PROC CATALOG is an interactive procedure that allows you to
- display the contents of a catalog
- copy a catalog or selected entries within a catalog
- rename, exchange, or delete entries within a catalog */
PROC CATALOG CATALOG=<libref.>catalog <ENTRYTYPE=etype> <FORCE> <KILL>;
CONTENTS <OUT=SAS-data-set> <FILE=fileref>;
COPY OUT=<libref.>catalog <options>; SELECT entry(s) </ ENTRYTYPE=etype>;
EXCLUDE entry(s) </ ENTRYTYPE=etype>;
CHANGE old-name-1=new-name-1
<...old-name-n=new-name-n>
</ ENTRYTYPE=etype>;
EXCHANGE name-1=other-name-1
<...name-n=other-name-n>
</ ENTRYTYPE=etype>;
MODIFY entry
</ ENTRYTYPE=etype>;
MODIFY entry
(DESCRIPTION=<'>entry-description<'>)
</ ENTRYTYPE=etype>;
SAVE entry(s) </ ENTRYTYPE=etype>;
105
104
106
101a
101b
100
101

FIG. 8

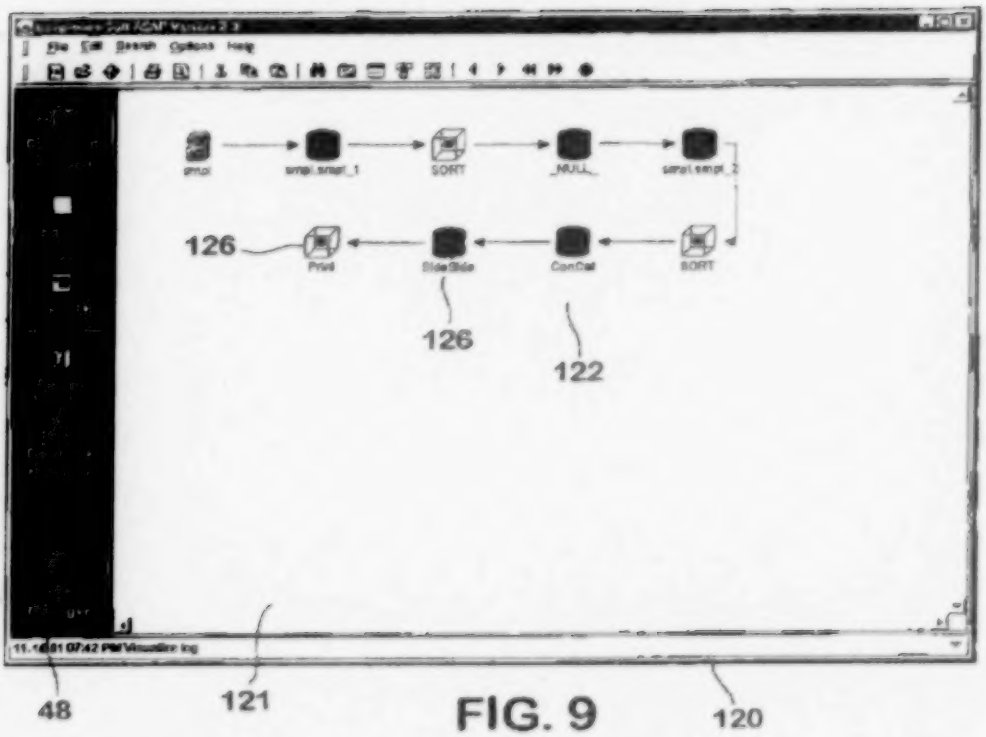


FIG. 9

File Edit Search Options Help
Server A Server B
Connected to 192.168.1.4 telnet
48
162
160

FIG. 10

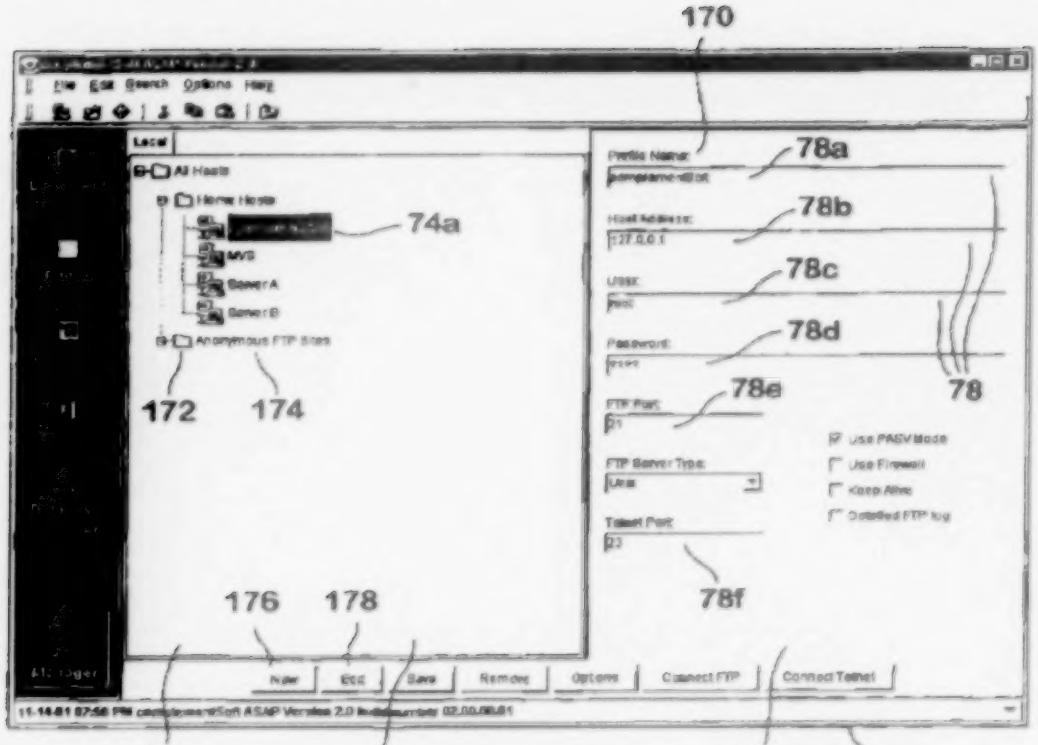


FIG. 11

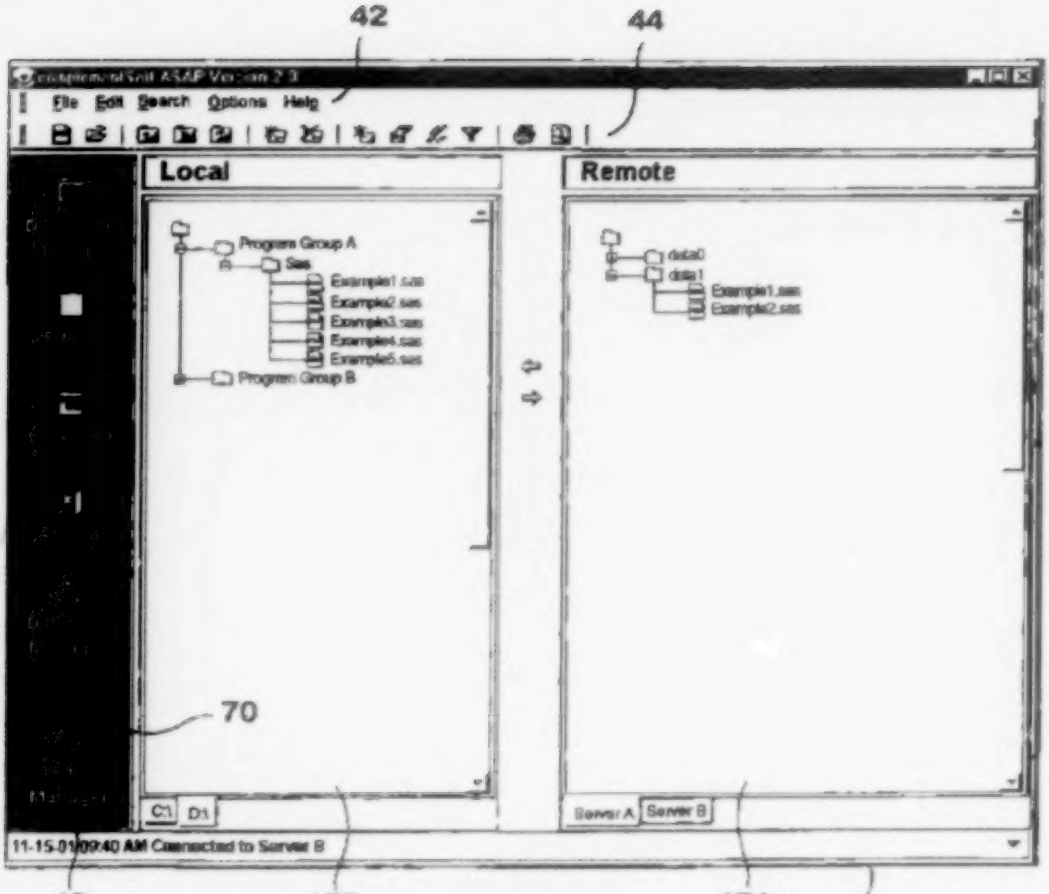

42
44
File Edit Search Options Help
Local
Remote
Program Group A
Sas
Program Group B
70
C:\ D:\
Server A Server B
48
172
174
60

FIG. 12

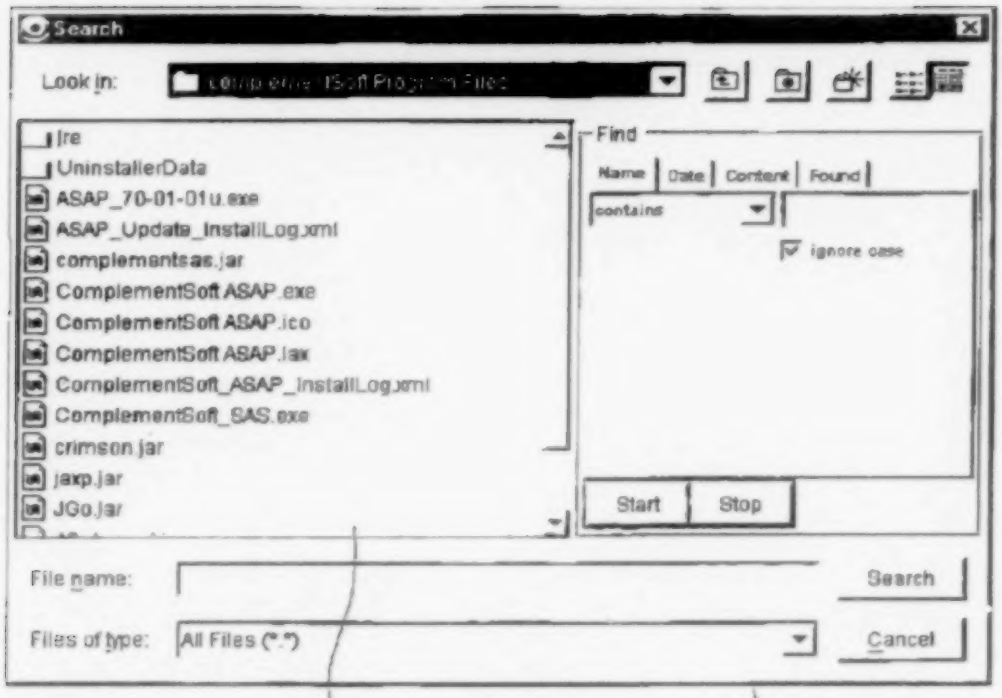

Search
Look in:
jre
UninstallerData
ASAP_70-01-01u.exe
ASAP_Update_InstallLog.xml
complementsas.jar
ComplementSoft ASAP.exe
ComplementSoft ASAP.ico
ComplementSoft ASAP.lax
ComplementSoft_ASAP_InstallLog.xml
ComplementSoft_SAS.exe
crimson.jar
jaxp.jar
JGo.jar
Find
Name
Date
Content
Found
contains
ignore case
Start
Stop
File name:
Search
Files of type:
All Files (*.*)
Cancel
69a
69

FIG. 13

FIG. 14a

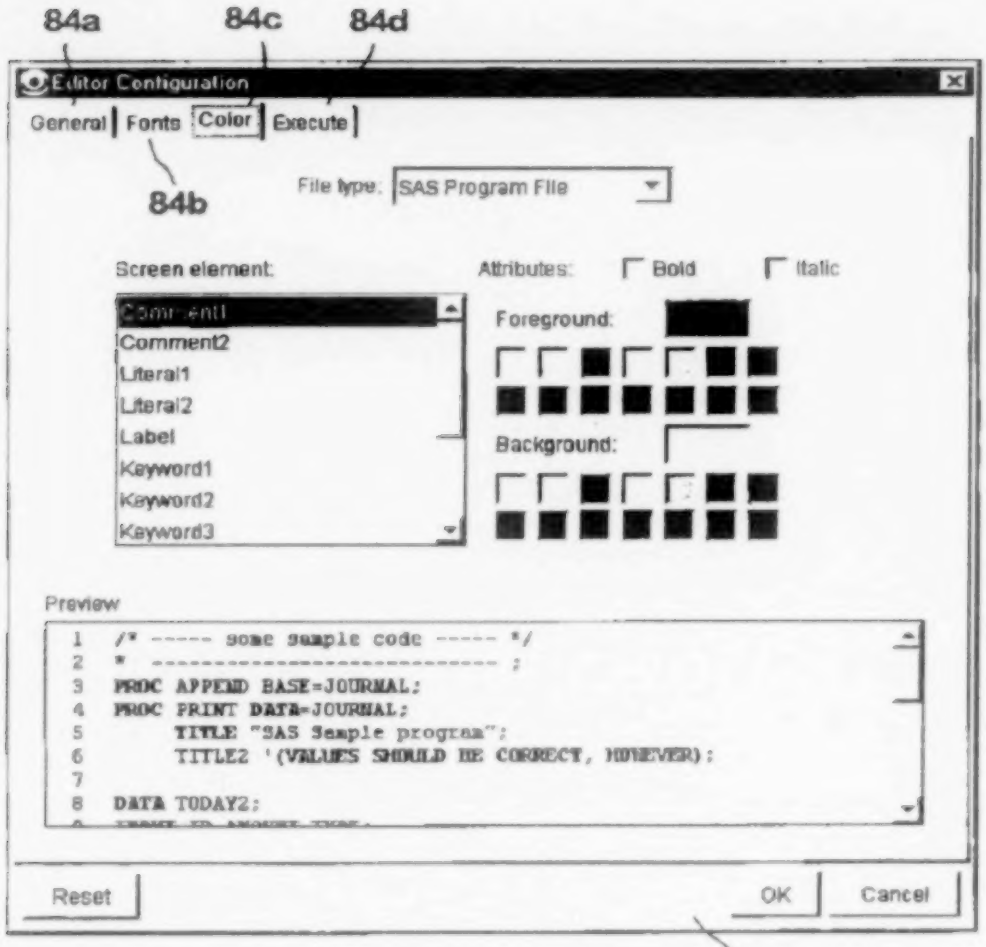

84a
84c
84d
Editor Configuration
General
Fonts
Color
Execute
84b
File type:
SAS Program File
Screen element:
Attributes:
Bold
Italic
Comment1
Comment2
Literal1
Literal2
Label
Keyword1
Keyword2
Keyword3
Foreground:
Background:
Preview
1 /* ----- some sample code ----- */
2 * ---------- ;
3 PROC APPEND BASE=JOURNAL;
4 PROC PRINT DATA=JOURNAL;
5 TITLE "SAS Sample program";
6 TITLE2 '(VALUES SHOULD BE CORRECT, HOWEVER);
7
8 DATA TODAY2;
Reset
OK
Cancel
84

FIG. 14b

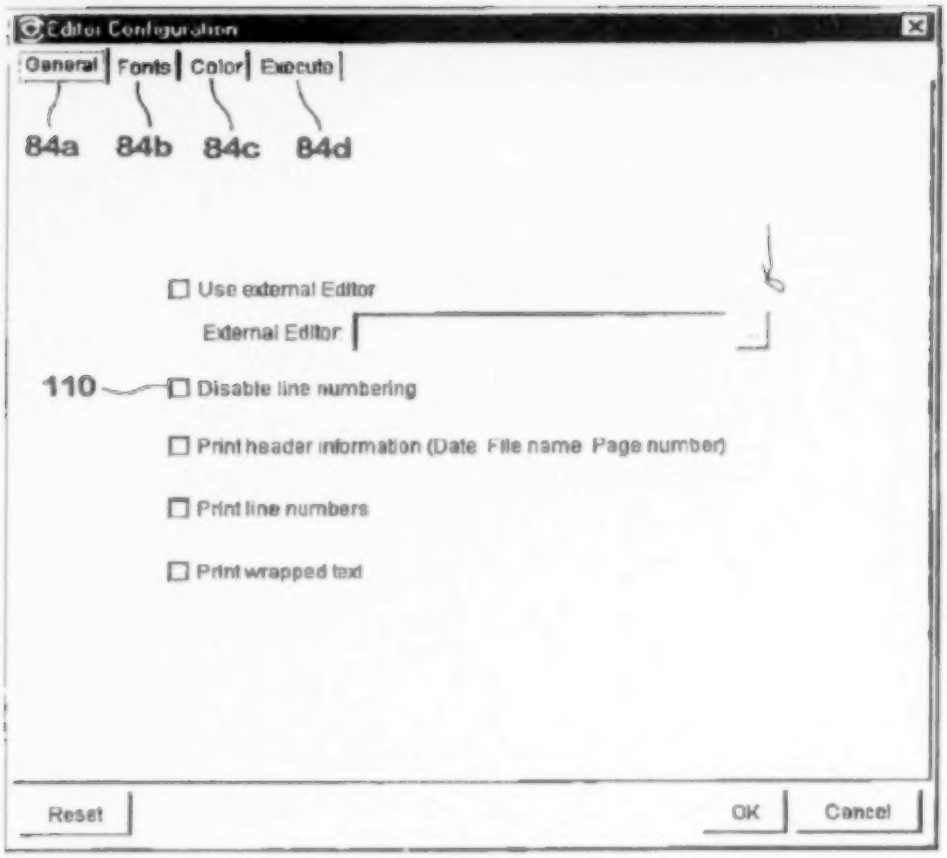

Editor Configuration
General
Fonts
Color
Execute
84a
84b
84c
84d
Use external Editor
External Editor
110
Disable line numbering
Print header information (Date File name Page number)
Print line numbers
Print wrapped text
Reset
OK
Cancel

FIG. 14c

84a
84d
Editor Configuration
General
Fonts
Color
Execute
Execution Mode
84b
84c
N Observations
Observations 0
Expand Macros (MPRINT)
Execution Location
Execution Path
Local
Program Files\SAS Institute\SAS\V8\SAS.exe
Remote
Don't show option dialog before execution.
Reset
OK
Cancel

FIG. 14d

84a
84b
84c
84d
General
Fonts
Color
Executs
Font Name:
Courier New
Size:
12
Style:
Plain
Preview
1 /* ----- some sample code ----- */
2 * ---------- ;
3 PROC APPEND BASE=JOURNAL;
4 PROC PRINT DATA=JOURNAL;
5 TITLE "SAS Sample program";
6 TITLE2 '(VALUES SHOULD BE CORRECT, HOWEVER);
7
8 DATA TODAY2;
9 INPUT ID AMOUNT TYPE;
10 DATE='01DEC87'd;
11 FORMAT DATE DATE7.;
12 CARDS;
13 LOOP:
14 0024 270.48 1
15 0024 578.31 1
16 0007 300.00 2
17 0289 100.01 1
18 5762 950.00 1
19
20 IF VPT_MER > 0 THEN
21 VPC_MER = VHA_MER / VPT_MER * 100;
Reset
OK
Cancel

FIG. 14e

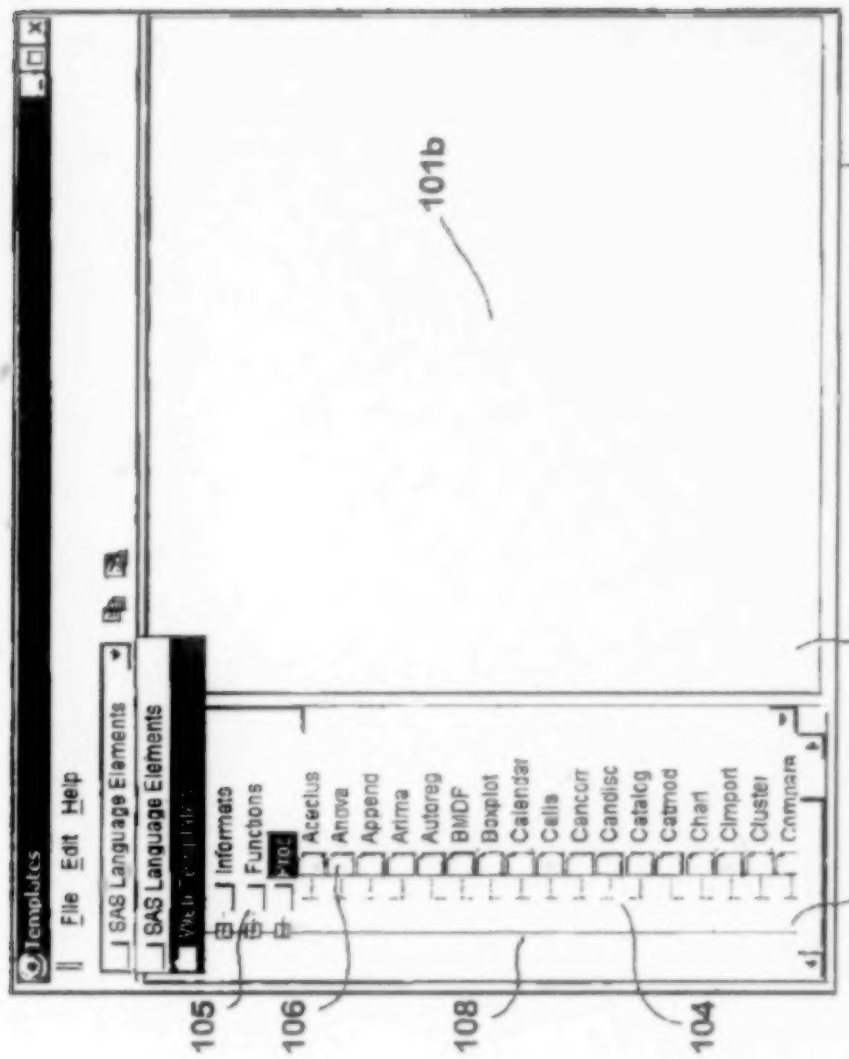

Templates
File Edit Help
SAS Language Elements
SAS Language Elements
Informats
Functions
Acecius
Anova
Append
Arima
Autoreg
BMDF
Boxplot
Calendar
Calis
Cancorr
Candisc
Catalog
Catmod
Chart
Cimport
Cluster
Commana
101b
100
101
101a
105
106
108
104

FIG. 15

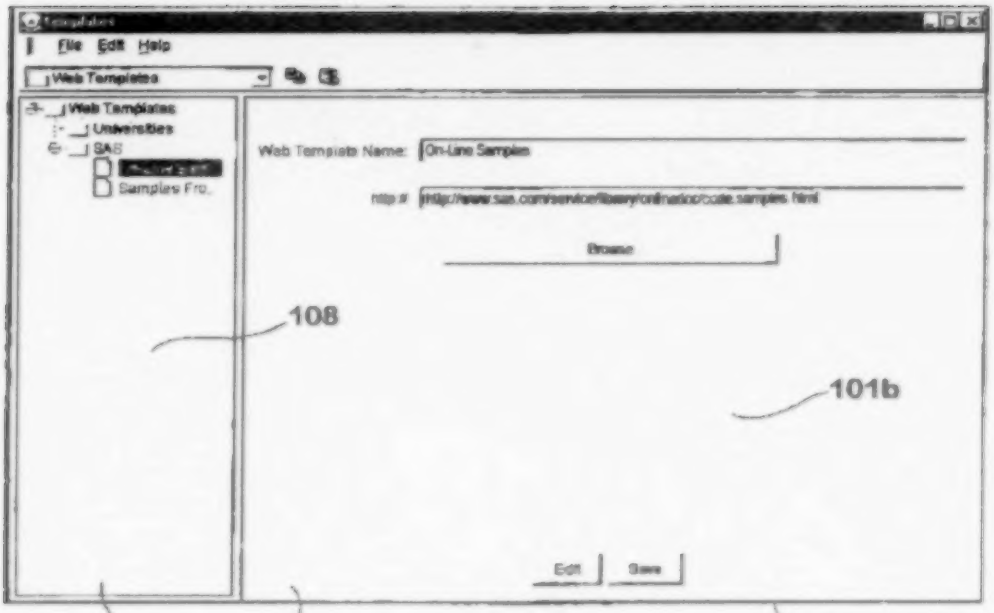

File Edit Help
Web Templates
Web Templates
Universities
SAS
Samples Fro..
Web Template Name:
On-Line Samples
http #
Browse
108
101b
Edit
Save
101a
101
100

FIG. 16

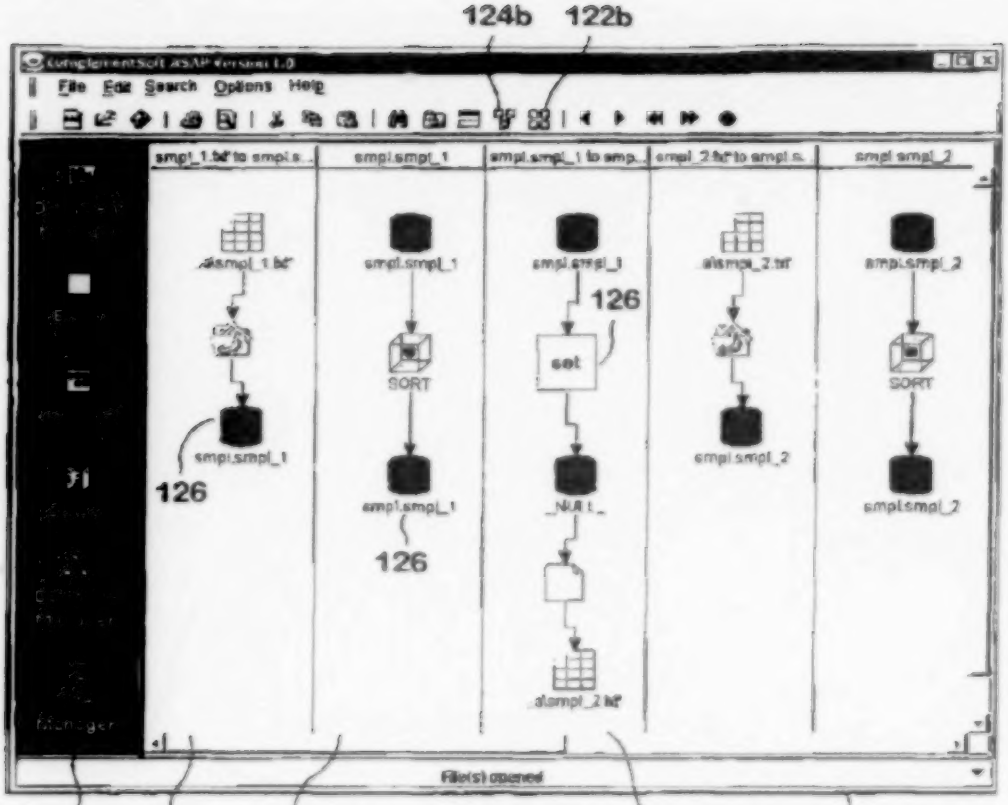

124b
122b
File Edit Search Options Help
smpl.smpl_1
SORT
126
set
NULL
File(s) opened
48
121
124
124a
120

FIG. 17

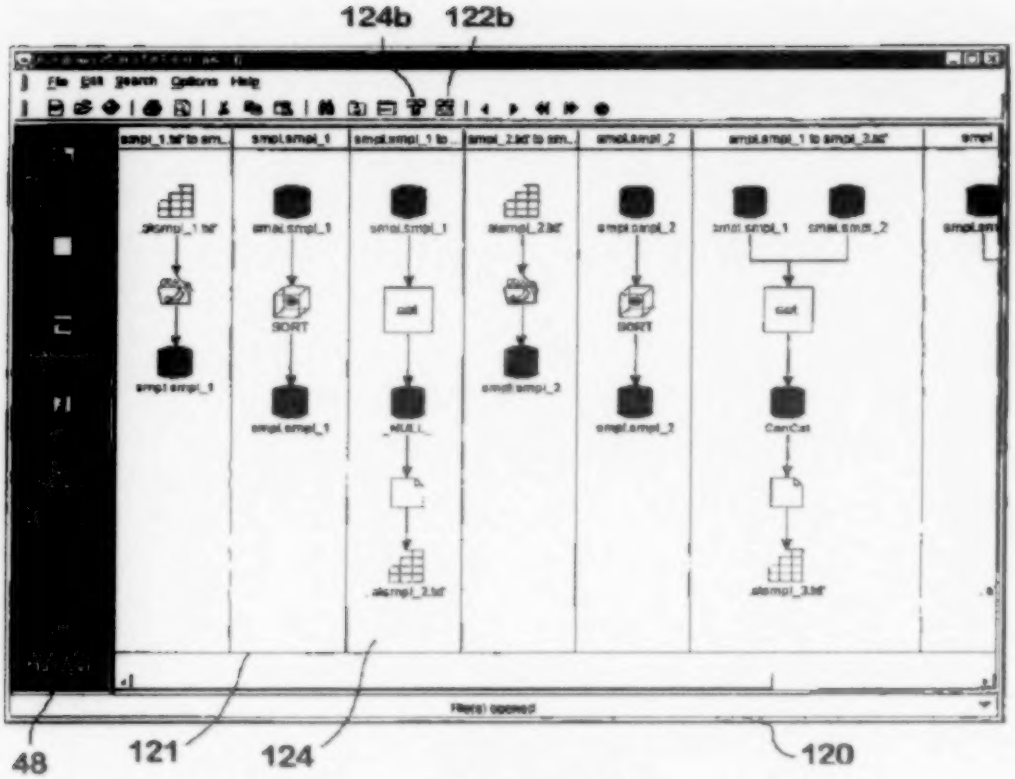


FIG. 18a

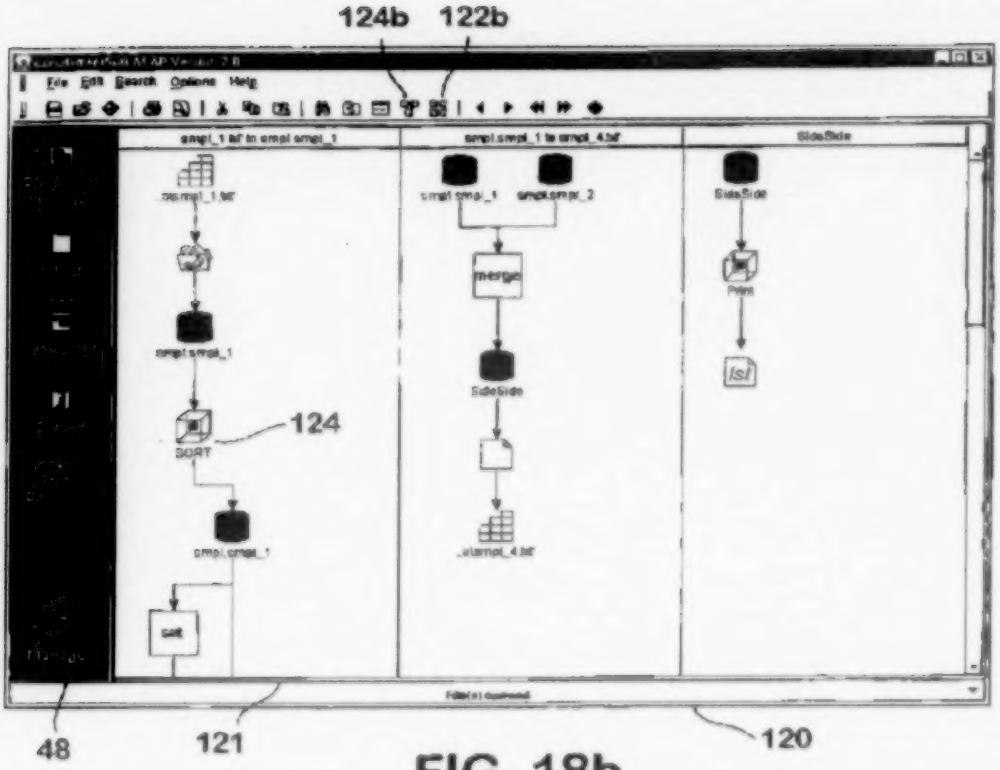


FIG. 18b

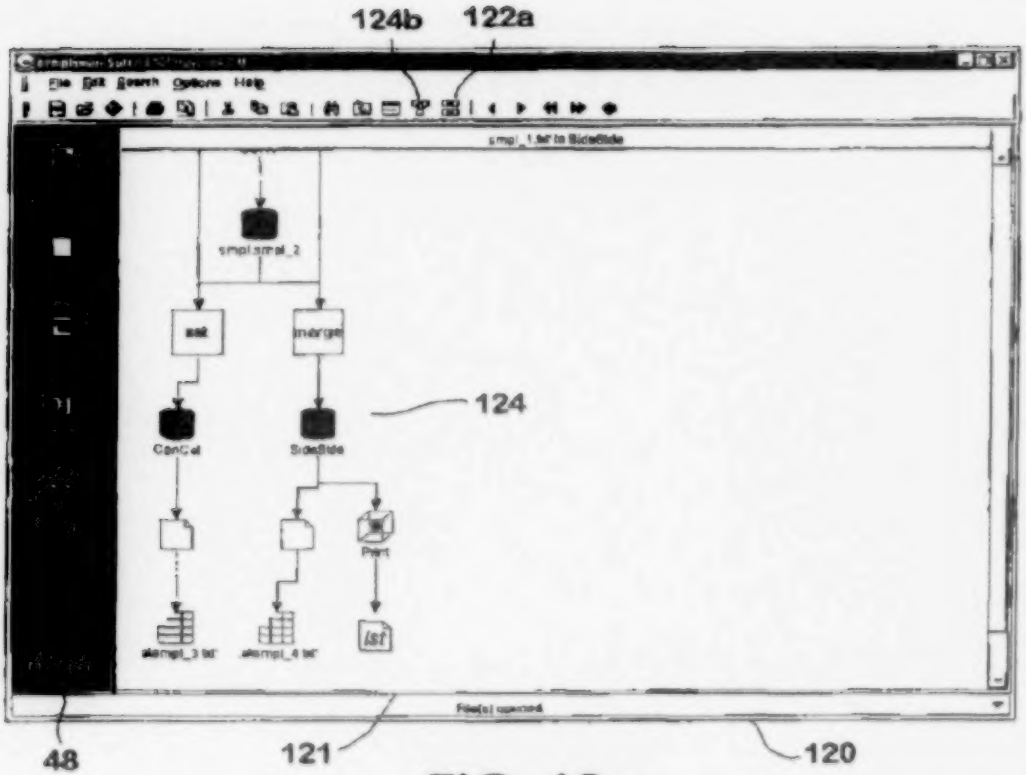


FIG. 18c

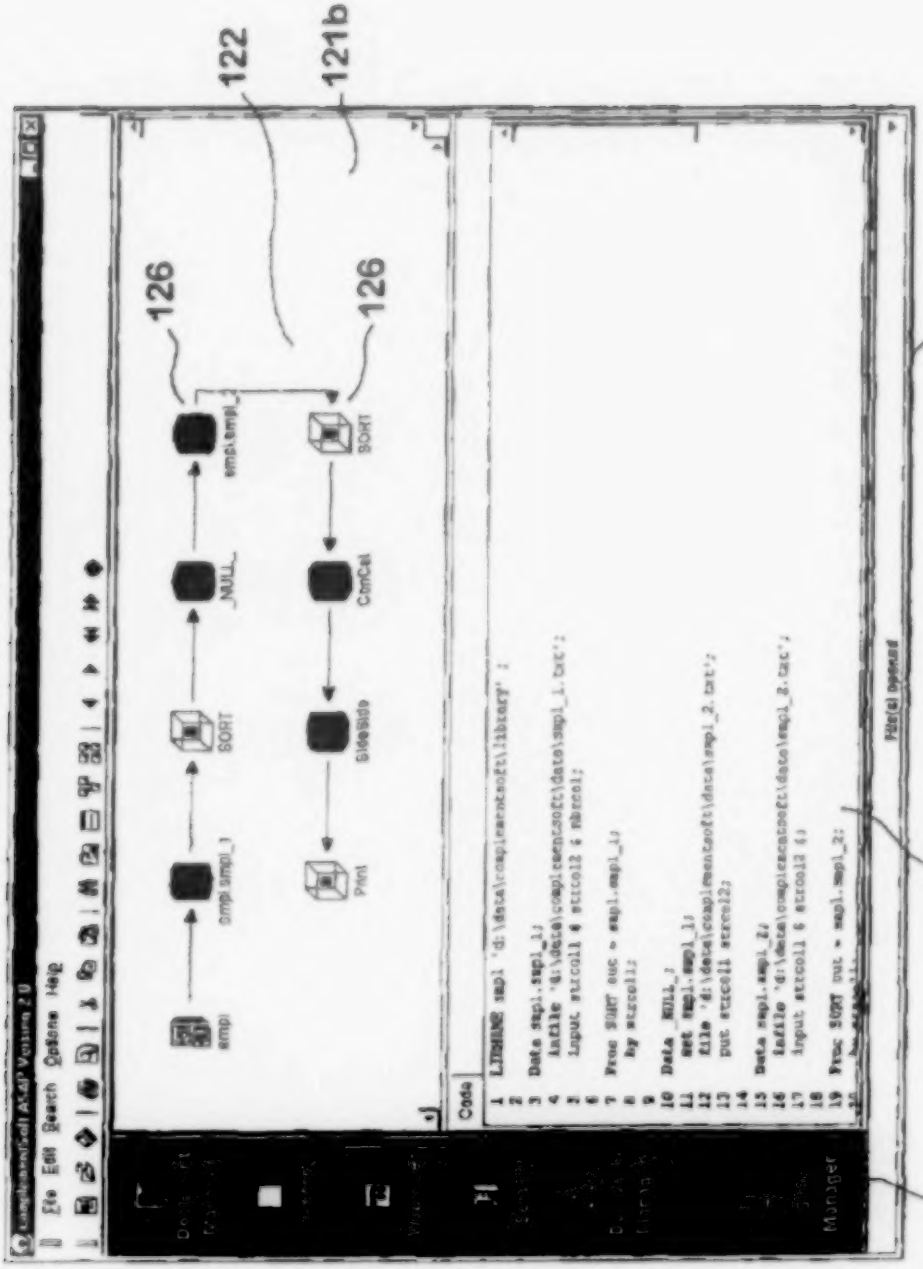

122
121b
126
126
120
121c
48
File Edit Search Options Help
empl
empl.empl_1
SORT
NULL
empl.empl_2
Print
BiteSide
ConCat
SORT
Code
Manager

FIG. 19

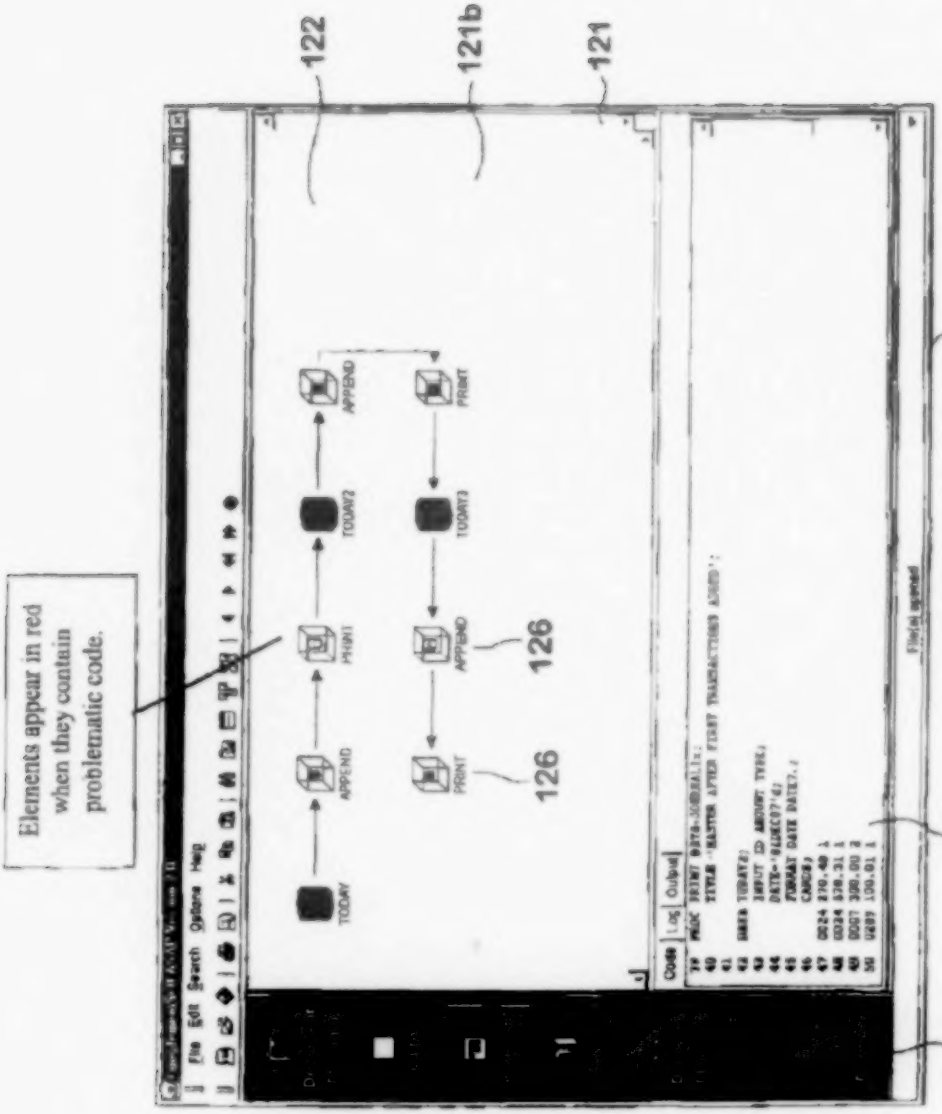

Elements appear in red when they contain problematic code.
122
121b
121
120
126
126
121
48
TODAY
APPEND
PRINT
TODAY2
APPEND
PRINT
TODAY3
Code
Log
Output

FIG. 20

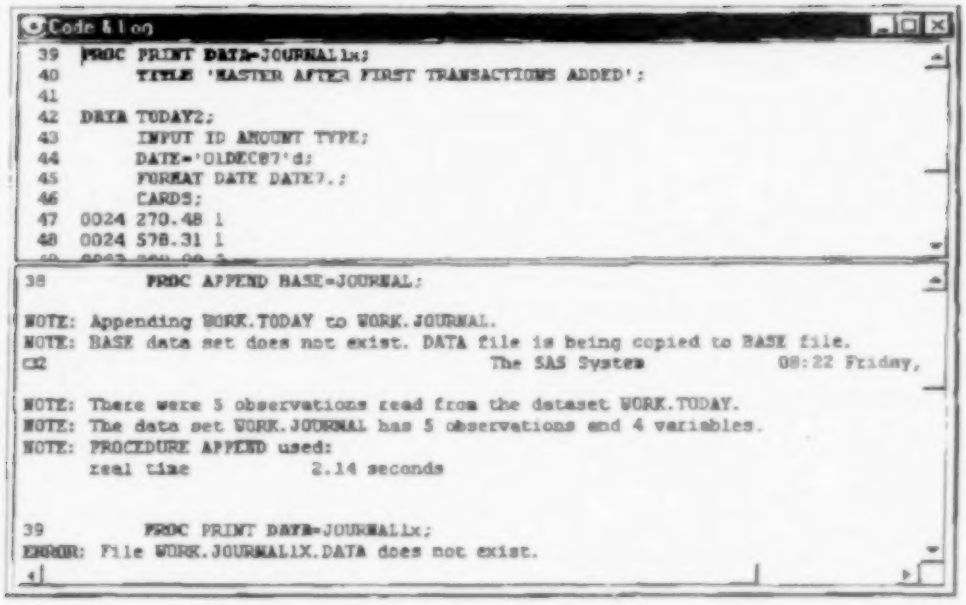

Code & Log
39 PROC PRINT DATA=JOURNAL1x;
40 TITLE 'MASTER AFTER FIRST TRANSACTIONS ADDED';
41
42 DATA TODAY2;
43 INPUT ID AMOUNT TYPE;
44 DATE='01DEC87'd;
45 FORMAT DATE DATE7.;
46 CARDS;
47 0024 270.48 1
48 0024 578.31 1
38 PROC APPEND BASE=JOURNAL;
NOTE: Appending WORK.TODAY to WORK.JOURNAL.
NOTE: BASE data set does not exist. DATA file is being copied to BASE file.
The SAS System 08:22 Friday,
NOTE: There were 5 observations read from the dataset WORK.TODAY.
NOTE: The data set WORK.JOURNAL has 5 observations and 4 variables.
NOTE: PROCEDURE APPEND used:
real time 2.14 seconds
39 PROC PRINT DATA=JOURNAL1x;
ERROR: File WORK.JOURNAL1X.DATA does not exist.

FIG. 20a

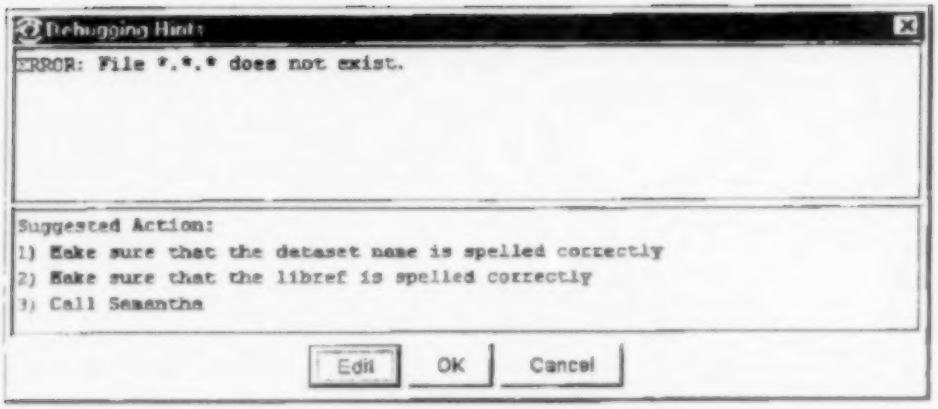

Debugging Hints
ERROR: File *.*.* does not exist.
Suggested Action:
1) Make sure that the dataset name is spelled correctly
2) Make sure that the libref is spelled correctly
3) Call Samantha
Edit
OK
Cancel

FIG. 20b

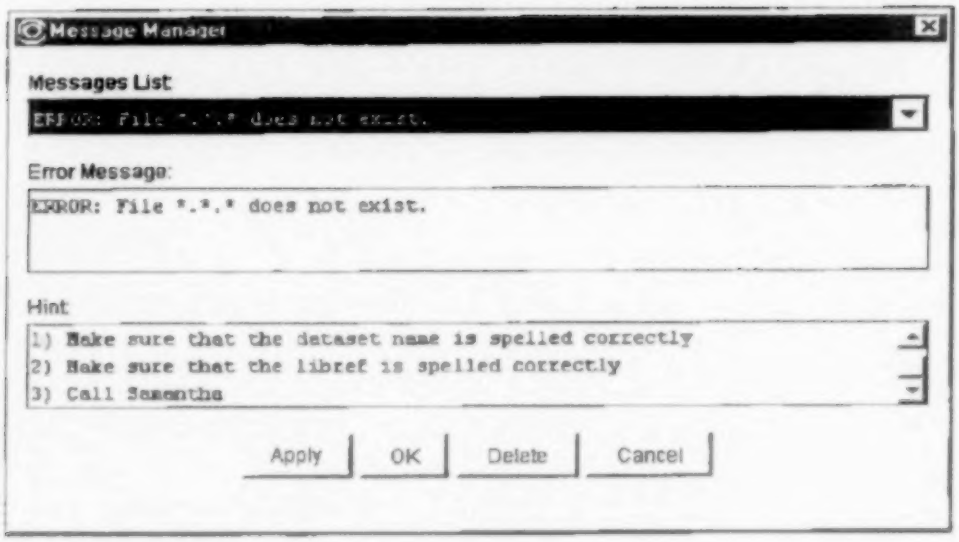

Message Manager
Messages List
ERROR: File *.*.* does not exist.
Error Message:
ERROR: File *.*.* does not exist.
Hint:
1) Make sure that the dataset name is spelled correctly
2) Make sure that the libref is spelled correctly
3) Call Samantha
Apply
OK
Delete
Cancel

FIG. 20c

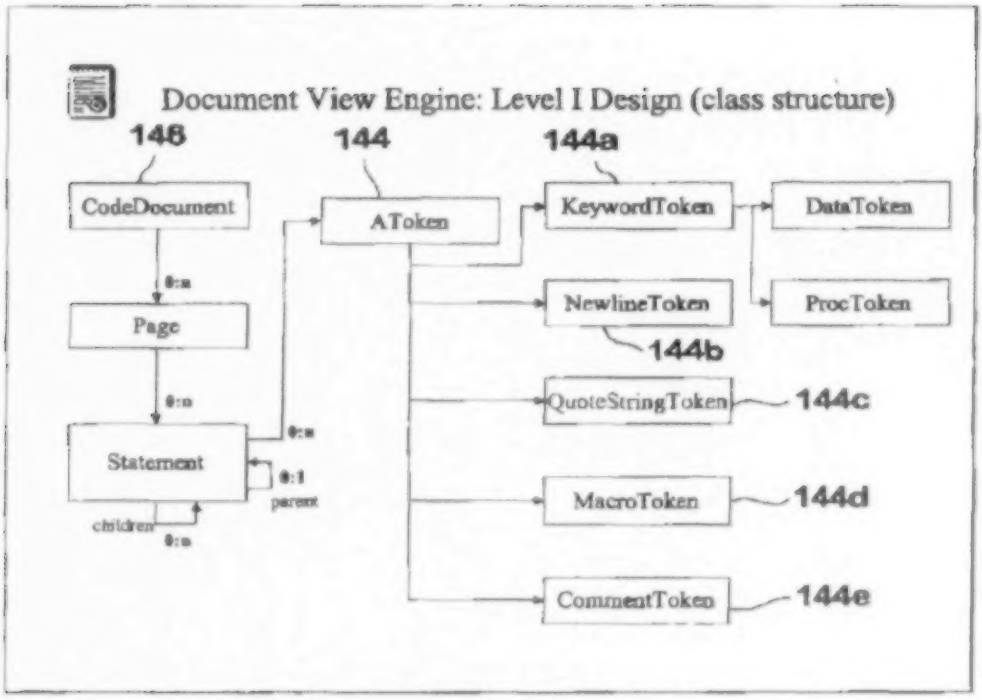

Document View Engine: Level I Design (class structure)
148
144
144a
CodeDocument
AToken
KeywordToken
DataToken
0:n
Page
NewlineToken
ProcToken
144b
0:n
QuoteStringToken
144c
0:n
Statement
0:1
parent
MacroToken
144d
children
0:n
CommentToken
144e

FIG. 21

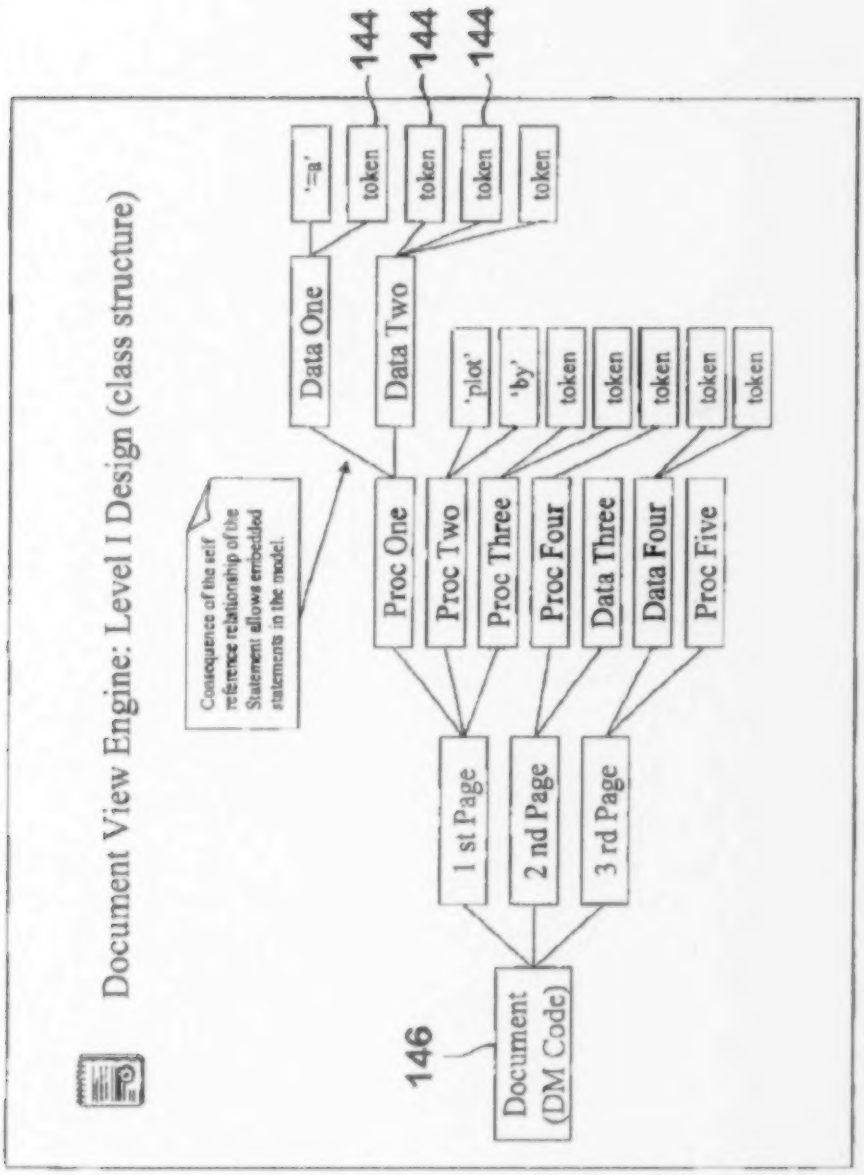

Document View Engine: Level I Design (class structure)
144
144
144
'=a'
token
token
token
token
Data One
Data Two
'plot'
'by'
token
token
token
token
token
token
Consequence of the self reference relationship of the Statement allows embedded statements in the model.
Proc One
Proc Two
Proc Three
Proc Four
Data Three
Data Four
Proc Five
1 st Page
2 nd Page
3 rd Page
146
Document (DM Code)

FIG. 22

FIG. 23

SYSTEM AND METHOD FOR GENERATING AND MAINTAINING SOFTWARE CODE

RELATED APPLICATION

This subject application claims the benefit of U.S. Provisional Application Ser. Nos. 60/270,950, entitled "GUI SAS CODE Development and Maintenance Environment Software," filed on Feb. 23, 2001 and 60/293,854, entitled "Integrated Development Environment and GUI for Data Management Systems," filed on May 25, 2001.

BACKGROUND OF THE INVENTION

This invention relates generally to software maintenance and development tools and, more particularly, to an extensible, language independent software development tool having a graphical user interface, i.e., a GUI Integrated Development Environment.

The evolution of data manipulation and data management systems, such as SAS®, SPSS® and SQL®, and relational database management systems, such as IBM® DB2 UDB® and the Oracle® RDBMS, has resulted in several high-level software languages that are inconsistent and, in some cases, unstructured. Based on these inconsistencies and the unstructured nature of some of these languages, database management languages may be difficult to use, edit and debug. Moreover, because of the lack of a standardized syntax among these programming languages, it has been difficult for users of these languages to share code. This is particularly the case with SAS®.

Since the advent of personal computers and the GUI Interfaces such as Windows® Interfaces, it has become increasingly necessary for businesses to develop or purchase customized software in order to support specific business strategies or processes. This, in turn, has led to the implementation of a variety of software development tools and Integrated Development Environments ("IDEs"). Generally, these software development tools assist users and programmers in editing, debugging and developing software for specific programming languages. Software providers of data manipulation languages or systems have, however, failed to provide a single comprehensive software development tool capable of assisting users in the editing, visualizing, debugging and development of software. Furthermore, the creation of graphical development tools for particular programming languages, such as, SAS®, has been inhibited by the intricacies of the programming language itself.

Over the years, point solutions have been introduced to address specific issues. For example, there are a few GUI based ftp software packages to make the job of transferring and managing code easier. There are also a few GUI based editor software packages to make editing code easier. Still further, there are software packages that one can use to manually diagram program flow and data flow. What is lacking, however, is a software package that integrates these best of breed point solutions and integrates them in such a way that they work seamlessly with each other, e.g., to have an editor that is integrated with a ftp package so that the editor can edit files that are located in a remote server or to have the editor integrated with the diagramming package so the user does not have to manually generate and update program flow or data flow diagrams.

Thus, a need exists for an Integrated Development Environment for generating and maintaining software code, in particular, for data manipulation centric languages. More specifically, a need exists for a system and method for

exchanging, editing, debugging, visualizing and developing SAS®, SPSS®, SQL®, DB2 UDB®, Oracle® RDBMS and other relational database management system software.

SUMMARY OF THE INVENTION

In accordance with these needs, the present invention is embodied in an Integrated Development Environment for generating and maintaining source code (software programmed in a software language), in particular, programmed in data manipulation languages. Generally, the system in which the Integrated Development Environment resides includes a local computer capable of exchanging files with a remote computer via a network system, i.e., a Local Area Network, a Wide Area Network, or the Internet. The local computer preferably hosts the Integrated Developers Environment which is further comprised of a document manager for transferring files and otherwise providing enhanced file management functions, such as, version synchronization across multiple platforms. The document manager works in connection with a server module, a site manager and a connectivity layer which is part of the Integrated Development Environment to connect to remote computers, to transparently exchange files with the remote computer and to manage server profiles and connection information that is related to remote computers and transferred files.

Once a file is transferred to the local computer, an editor, which is included as part of and integrated with the Integrated Development Environment, can modify the code associated with the file. In addition, the editor is also capable of creating new files and provides many advanced editing features such as visual execution break points, standardized formatting of files, and line numbering to name a few. A visualizer, i.e., a software tools that reads the code and generates diagrams and graphical representation of the program flow, data flow or the logic of the code, is also integrated and included as part of the Integrated Development Environment. Program flow diagrams are comprised of program block icons and arrows to depict the code's program flow. Data flow diagrams are comprised of icons depicting data processing steps and arrows to depict the flow of the data through the program. Preferably, the visualizer and editor are integrated so that changes made to the code in the editor are immediately reflected in the visualizer and vice-versa. The visualizer can also read information from execution logs and execution outputs to display the execution path for selected code and automatically display insightful debugging and optimization information for the selected code to the user.

To assist in developing new code or editing existing code, the Integrated Development Environment further includes a template manager that allows the user to browse through a repository of existing code or templates and to copy templates into the selected code for editing.

For allowing the editor to process code that is written in different Data Manipulation System programming languages and for creating the program flow icons, the Integrated Development Environment additionally includes a parser layer. The parser layer detects the type of code in the selected file and activates the rules and logic that apply to the corresponding Data Manipulation System programming language.

As will become apparent from the detailed description that follows, the subject Integrated Development Environment provides, among others, the following unique functions: seamlessly exchanging with and executing files on local and remote computers, where the site manager is

capable of compiling connection information for remote computers necessary to achieve the seamless transfer and execution of files; automatically generating program flow and data flow diagrams, where the program flow and data flow diagrams can be viewed at various levels of abstraction and where the user is capable of utilizing a step-wise function to collapse or expand the levels of abstraction to view; and automatically parsing the execution log to automatically match errors and warnings in the log file to the appropriate corresponding lines of code in the program file in order to ease the ability to correct the error, to visually highlight problematic areas, and to generate user customizable error messages and debugging advice for such problematic areas.

A better understanding of these and other objects, advantages, features, properties and relationships of the invention will be obtained from the following detailed description and accompanying drawings which set forth an illustrative embodiment and which are indicative of the various ways in which the principles of the invention may be employed.

BRIEF DESCRIPTION OF DRAWINGS

For a better understanding of the invention, reference may be had to a preferred embodiment shown in the following drawings in which:

FIG. **1** is a diagram illustrating an exemplary computer network for generating, maintaining and executing computer code;

FIG. **2** is a diagram illustrating exemplary components of the local computer;

FIG. **3** is an exemplary screen shot depicting a graphical user interface displaying a Menu bar, a Tool bar, a Display area (in this case the Editor) and a Navigation bar;

FIG. **4***a–f* are exemplary screen shots and corresponding tables depicting icons that are representative of menu items included on the Menu bar, along with the name of each menu item and a functional description of pertinent menu items;

FIG. **5** is a diagram illustrating the tool bar and a corresponding table describing the pertinent functions associated with the buttons included on the Tool bar;

FIG. **6** is an exemplary screen shot depicting an Editor window in Full Screen mode, along with corresponding output and log file tabs;

FIG. **7** is an exemplary screen shot depicting a tree view, along with the corresponding code segments;

FIG. **8** is an exemplary screen shot depicting a template manager window with available templates;

FIG. **9** is an exemplary screen shot depicting a program flow for a selected file, along with arrows that indicate the flow of data within the program flow;

FIG. **10** is an exemplary screen shot depicting a server module window configured for automated login and including session tabs for Server A and Server B;

FIG. **11** is an exemplary screen shot depicting a site manager window;

FIG. **12** is an exemplary screen shot depicting a document manager window;

FIG. **13** is an exemplary screen shot depicting a search panel for locating files;

FIG. **14***a* is an exemplary screen shot depicting an Enhanced Editor Options window;

FIG. **14***b* is an exemplary screen shot depicting a Color tab window for customizing the font colors associated with the code displayed by the Editor;

FIG. **14***c* is an exemplary screen shot depicting a General tab window for configuring the usage of an external editor in-lieu of the built-in editor, enabling and disabling line numbering for the code displayed by the Editor, and selecting print options;

FIGS. **14***d&e* are exemplary screen shots depicting an Execution Configuration tab for configuring the execution mode and execution location for selected files;

FIG. **15** is an exemplary screen shot depicting the template window as it is displaying available web-based templates to the user;

FIG. **16** is an exemplary screen shot of a web-based template that is already configured;

FIG. **17** is an exemplary screen shot depicting a data flow for a selected file;

FIG. **18***a–c* are a series of exemplary screen shots depicting operation of a step-wise function and various data flows as the data flows are being collapsed;

FIG. **19** is an exemplary screen shot depicting the visualizer employing the Split Screen view;

FIG. **20** is an exemplary screen shot depicting the visualizer with a problematic code section and a corresponding program flow icon being displayed in red;

FIG. **20***a* is an exemplary screen shot depicting the visualizer with a problematic code section and a corresponding error log for that code section;

FIG. **20***b* is an exemplary screen shot depicting a debugging hint associated with a problematic code section;

FIG. **20***c* is an exemplary screen shot depicting an error message and a corresponding debugging hint being provided by the message manager;

FIG. **21** depicts a predefined class structure for recognizing and displaying tokens, which is employed by a file parser to parse a selected file; and

FIG. **22** depicts an exemplary file that has been parsed and the corresponding class structure of the parsed file.

FIG. **23** depicts an exemplary file with break points added.

DETAILED DESCRIPTION

Turning now to the Figures, wherein like reference numerals refer to like elements, there is illustrated an Integrated Development Environment having numerous cooperating modules which together provide a system and method for generating and maintaining software, in particular, the software for data development and data manipulation languages. Although not required, the system and method will be described in the general context of a computer network **20**, illustrated in FIG. 1, and computer executable instructions being executed by general purpose computing devices within the computer network **20**. In this regard, the general purpose computing devices may comprise one or more remote computers **22***a*, and one or more local computers **22***b*, hosting an integrated software application **30**. The computer network **20** can also include one or more databases **24**. It should be appreciated that the network components could be described as having client and server relationships, as generally known in the art.

To allow the local computers **22***b* to generate and maintain code written in various programming languages, the integrated software application **30** will reside on the local computer **22***b*. Further, as shown in FIG. 2, it is preferable that the integrated software application **30** execute on a Java Virtual Machine ("JVM") which acts as an interface between the integrated software application and the operating system for the local computer **22***b*. Although the operating system for the local computer **22***b* is preferably Windows® based, it should be understood that the local

computer **22***b* could employ any one of the currently existing operating systems, such as LINUX®, UNIX®, MAC OS®, etc.

For editing, generating and maintaining software (i.e., program code), the local computers **22***b* include a graphical user interface **40**. As shown in FIG. **3**, the graphical user interface **40** is further comprised of a menu bar **42**, a tool bar **44**, a display area **46** and a navigation bar **48**. FIGS. **4***a*–**4***e* shows exemplary drop-down menu items included on the menu bar, along with a brief description of the functionality associated with those options. FIG. **4***f* shows the "Right-Click" menu. The tool bar **44** is further comprised of and displays several buttons, including a template manager button **44***a*, which serves as a link to a template manager **100**. In addition, FIG. **5** shows exemplary buttons included on the tool bar **44**, along with a brief description of the functionality associated with those buttons. The navigation bar **48** is further comprised of and displays a document manager button **48***a*, a site manager button **48***b*, an editor button **48***c*, a visualizer button **48***d*, a database manager button **48***f*, and a server button **48***e*, which serve as links to modules corresponding with these respective buttons, i.e., a document manager **60**, a site manager **70**, an editor **80**, a visualizer **120**, a database manager **121**, and a server module **160**, each of which will be described in greater detail below.

As will be appreciated by those of skill in the art, the computers **22***a*, **22***b* need not be limited to personal computers, but may include hand-held devices, multiprocessor systems, microprocessor-based or programmable consumer electronics, minicomputers, mainframe computers, personal digital assistants, cellular telephones or the like depending upon their intended end use within the system. For performing the procedures described hereinafter, the computer executable instructions may be written as routines, programs, objects, components, and/or data structures that perform particular tasks. Within the computer network **20**, the computer executable instructions may reside on a single computer **22***a*, **22***b* or the tasks performed by the computer executable instructions may be distributed among a plurality of the computers **22***a*, **22***b*. Therefore, while described in the context of a computer network, it should also be understood that the present invention may be embodied in a stand-alone, general purpose computing device that need not be connected to a network.

To perform the particular tasks in accordance with the computer executable instructions, the computers **22***a*, **22***b* may include, as needed, a video adapter, a processing unit, a system memory, and a system bus that couples the system memory to the processing unit. The video adapter allows the computers **22***a*, **22***b* to support a display, such as a cathode ray tube ("CRT"), a liquid crystal display ("LCD"), a flat screen monitor, a touch screen monitor or similar means for displaying textual and graphical data to a user. The display allows a user to view information, such as, code, file directories, error logs, execution logs and graphical user interface tools.

The computers **22***a*, **22***b* may further include read only memory (ROM), a hard disk drive for reading from and writing to a hard disk, a magnetic disk drive for reading from and writing to a magnetic disk, and/or an optical disk drive for reading from and writing to a removable optical disk. The hard disk drive, magnetic disk drive, and optical disk drive may be connected to the system bus by a hard disk drive interface, a magnetic disk drive interface, and an optical disk drive interface, respectively. The drives and their associated computer-readable media provide a means of non-volatile storage for the computer executable instructions and any other data structures, program modules, databases, etc. utilized during the operation of the computers **22***a*, **22***b*.

To connect the computers **22***a*, **22***b* within the computer network **20**, the computers **22***a*, **22***b* may include a network interface or adapter. When used in a wide area network, such as the Internet, the computers **22***a*, **22***b* typically include a modem or similar device. The modem, which may be internal or external, is connected to the system bus via a serial port interface. It will be appreciated that the described network connections are exemplary and that other means of establishing a communications link between the computers **22***a*, **22***b* may be used. For example, the system may also include a wireless access interface that receives and transmits information via a wireless communications medium, such as a cellular communications network, a satellite communications network, or another similar type of wireless network. It should also be appreciated that the network interface will be capable of employing TCP/IP, FTP, SFTP, Telnet SSH, HTTP, SHTTP, RSH, REXEC, etc. and other network connectivity protocols.

For seamlessly transferring files, the document manager **60** is utilized. The document manager **60** is a file management program that performs many enhanced file management functions, such as recognizing related files, (e.g., execution log files, output files, include files, etc.) and managing related files as a unit, regardless of the location of such files. For example, if the user causes the document manager **60** to transfer a file from the remote computer **22***a* to the local computer **22***b*, the document manager **60** may also determine whether any related files exist, i.e., files that are or will be used in conjunction with the file that the user is transferring, and transfer those files as well. As will be described in further detail below, these enhanced file management functions, including managing related files and storing information, such as origination and timestamp information about these files, allow the user to exchange files with and execute code on local computers **22***b* and/or remote computers **22***a*. To accomplish the enhanced file management functions, the document manager **60** may also include an intelligent module **62**, a security layer **66** and a file transfer program **68**.

The intelligent module **62** enables the document manager **60** to track pertinent file transfer information **64** that enable the performance of enhanced file management functions, including, uploading files from a source computer and returning/downloading an edited version of the same file to the same source computer for storage, execution, etc. To accomplish the functions of returning edited files to the source computer and executing edited files remotely, the file transfer information **64** may include a source computer identifier, a file directory identifier, a content identifier, a timestamp or other information capable of allowing the tracking of the type or path of files that are transferred between computers **22***a*, **22***b* or within a single computer **22***b*.

To ensure that the integrity and security of the network **20** is maintained, a security layer **66** is utilized. The security layer **66**, which is part of the site manager **70**, may save server login information supplied by the site manager **70** thereby allowing subsequent file exchanges to be handled transparently. The security layer **66** may also be capable of configuring the integrated software application **30** to work with firewalls. The site manager **70** gathers server login information and similar information for use by the document manager **60**, the intelligent module **62** and the security layer **66**, and interacts closely with each of these modules. Pref-

erably, remote file access and file execution are handled centrally through the site manager **70**.

To maintain existing software and develop new software, the editor **80** allows the user to perform standard text editing functions, including, mouse placement of the cursor, click-and-drag text selection and standard Windows® key combinations for cutting, copying and pasting data. While editing code that has been previously executed, the associated log files and output files that are stored in the same directory **104** as the code will automatically be opened and each of these files will include a corresponding tab **84***a*, **84***b*, as shown in FIG. **6**. The user can access each of these files by clicking on the corresponding tab **84***a* or **84***b* and switch between several related files by clicking on different tabs. The editor **80**, the document manager **60** and the site manager **70** cooperate to track the association between edited code, the log files and output files that are generated by the edited code, and the remote system on which edited code may be executed. The editor **80** may also employ language-specific syntax checking and auto-correct functions to enhance the software development capability of the integrated software application **30**.

To make the code more manageable and allow the user to see a more abstract version of the code, the editor **80** also provides a means to invoke a tree view **90**, which may be displayed near the editor **80**. The tree view **90** depicts individual procedures and data blocks as active elements **82** and shows the code at a high level. Since each active element **82** is representative of a larger code segment, as shown in FIG. **7**, the user can navigate throughout the code by selecting active elements **82** and thereby displaying the larger code segment associated with the selected active element **82** (i.e., the editor will automatically scroll to the region where the code segment is visible). To make it easier to cut, copy or move code segment, the user can right-click on an active elements in the tree. This will cause the editor to automatically scroll to the region where the code segment is located and highlight the entire code segment. The user can then cut or copy the highlighted code segment to the clipboard.

For enabling users to add pre-existing lines of code or templates **106** to a program being edited or created, the editor **80** also includes the template manager **110**, which may be accessible to the user by clicking on the Template button on the tool bar **44** menu. As shown in FIG. **8**, the template manager window **102** includes a directory **104** of templates **106**, which are both pre-built and written by the user and which may be examined by navigating the directory **104** in a manner that is well-known in the art. The template manager **110** allows the user to insert templates **106** directly into the code that is being created/edited. In addition, the template manager **110** also allows the user to create and organize their own templates **106**. Still further, the template manager **110** could be used in connection with the Internet and a web browser to view and retrieve templates stored at remote locations, such as web sites, bulletin boards, etc. The Template Manager **100** can store the templates (both built-in and those developed by the user) locally and/or centrally on a remote server making it easy for the entire workgroup or enterprise to share these templates.

In addition, the editor **80** may also provide an auto-complete function capable of automatically generating code based on templates **106** managed by the template manager **100**. For example, as soon as a user keys in a recognized key word, the editor **80** will automatically perform a look-up function for that keyword in the directory **104**. If a template **106** includes a matching keyword, then the editor **80** may automatically paste the template into the display area. If more than one template **106** matches the keyword, then a pop-up window will be displayed presenting the user with the option of selecting one of the matching templates. It should also be appreciated that the user customize the integrated software application **30** by enabling or disabling the auto-complete feature.

For viewing the program flow and data flow of a selected program, as will be further described below, the visualizer **120**, in connection with a parser layer **140**, reads, parses and displays the code for the selected program, representing each program and data block with a program flow icon **126**. As illustrated in FIG. **9**, arrows connect these program flow icons **126** to generally illustrate the flow of data.

Assuming that the designated code segment has been executed previously and that the execution log is readily available, the user may also "mouse-over" the program flow icon to display the comments and execution statistics, i.e., CPU usage, number of row processed, etc., associated with the block. Right-clicking on the program flow icon will activate specific functions or options associated with the icon. For example, the dataset icon (i.e., an icon that represents a dataset or a table) will display a list of data inspection or data discovery functions, including ad hoc SQL® queries. Ad hoc SQL® queries that are selected may be executed by the respective engine. These engines (e.g., SAS, DB2 UDB, or other RDBMS servers) can resides locally on the user's workstation or remotely on the LAN/WAN and the results, once retrieved will be displayed in a pop-up output window

To access and interact with remote computers **22***a* via command lines, the server module **160** acts as a robust terminal emulator. The server module **160** allows users to open one or more sessions thereby simultaneously gaining access to one or more hosts/remote computers **22***a*. In addition, the user has the option of executing edited code on a remote computer **22***a*, by employing the server module **160**, in connection with the site manager **70**, to connect the local computer **22***b* to the remote computer **22***a*, as will be described in more detail below. Once a session is opened, a terminal tab for the respective session can be created and displayed to the user by the server module **160**, as illustrated in FIG. **10**. It should be understood by those with skill in the art that the server module **160**, the site manager **70** and the document manager **60** all preferably interact with one another to effectuate the transfer of code between the remote server computers **22***a* and the local computer **22***b*. It should also be understood that each of these modules could be combined or further divided to form one single module or additional modules.

The site manager **70** assists the local computer **22***b* with access to the remote computers **22***a*. For example, the document manager **60** and the server module **160** use the site manager **70** to collect the connection information **78** necessary for the local computer **22***b* to make a LAN/WAN connection to a remote computer **22***a* using either FTP, SFTP, Telnet SSH, HTTP, SHTTP, RSH, REXEC and other TCP/IP connectivity protocols. Additionally, to avoid manually entering the connection information **78** each time a different remote computer **22***a* is accessed, the site manager **70** is also capable of saving connection information **78** for different servers. Thus, the site manager **70** creates a virtual computing environment by expanding the computing boundary of the local computer **22***b* to include remote computers **22***a* and making various computing resources across the LAN/WAN seamlessly available for use by the local computer **22***b*. As shown in FIG. **11**, the site manager

window **72** may be divided into a first panel **74** and a second panel **76**. The first panel **74** displays a tree structure that depicts the system configuration **74***a* for each of the remote computers **22***a* that are available to the local computer **22***b*. The second panel **76** displays the connection information **78** for a selected remote computer **22***a*, including but not limited to the following fields: Profile Name **78***a*, Host Address **78***b*, User **78***c*, Password **78***d*, FTP port **78***e* and Telnet Port **78***f*.

The site manager **70** also includes a PASV mode and Firewall option which can be selected by the user. PASV mode is supported as an option to allow file transfer programs ("FTPs") to work with a firewall. This feature reverses the connection between the remote computer **22***a* and the local computer **22***b* allowing many users whose sessions are hosted behind firewalls to use the document manager **60**. Therefore, PASV mode is useful for certain types of firewalls that do not allow FTP servers to initiate data connections back to the connected client. If the Firewall option is selected, the firewall configuration parameters from the Firewall tab of the Option Dialog will be used to initiate a connection to this profile. Moreover, if the local computer **22***b* resides behind a firewall that limits or restricts FTP access and the Firewall mode is selected, the necessary connection information **78** and Firewall selections for the local computer **22***b* must be entered, i.e., a host name, port number, user ID and password. In accordance with procedures that are generally known in the art, the Firewall Type box permits the user to select the command required by the firewall to initiate an FTP session from the site manager **70**. In addition to providing options that enhance the network connectivity of the local computer **22***b*, the Option button also provides tools and wizards for automatically searching the LAN/WAN for designated resources. These tools and wizards simplify the network/server connection setup between the local computer **22***b* and the remote computers **22***a*.

For parsing the code, the parser layer **140** is provided. The file parser **142** retrieves code utilizing the services provided by the document manager **60** and examines the words/tokens which comprise the code **144**. The file parser **142** also identifies and tags the tokens **144** to indicate that they are one of a variety of token classes, such as, a keyword token, a newline token, a quotestring token, a macro token and a comment token. Since the integrated software application **30** is language aware, the parser layer **140** may accommodate varying language types. Thus, although the preferred embodiment of the present invention is specifically designed to include modules for parsing SASS® and SQL code, it should be appreciated that the modules can be included for parsing and interpreting other language types, such as, SPSS®, DB2 UDB® Store Procedures, ORACLE® PL/SQL, etc.

For managing and interacting with database files, a database manager **220** may be provided which automatically interacts with the local ODBC registry to display a list of ODBC resources. In addition, the database manager **220** may automatically search the LAN/WAN for RDBMS servers and display the list of RDBMS servers that are found locally or remotely. The database manager also allows the user to select and drill down to a desired database and automatically connect to the selected database, unless a login screen is required to connect to the database. Once connected to the selected database, the Database Manager will display a list of tables which are stored and available in the database. The user can then right-click on a particular table to gather statistics or to retrieve sample data from those tables. The user can also drill down on a particular table to display the columns of the tables. Similarly, the user can click on a particular table to gather statistics (e.g., frequency counts, min max, distinct value, average, etc.) or to retrieve sample data from those tables. The user can also drag and drop tables onto a work area to graphically generate SQL® statement, to retrieve data from the database. Additional data manipulation functions, e.g., pivot, crosstab, and templates will be available to help users inspect, transform, import, export, map, format, transport and derive new data based on existing data. The database manager **220** may also include a meta data manager **222** to help the user document the business or logical definition of the data, and the technical or physical definition of the data. The meta data manager **222** may also assist the user in tracking the lineage of the data, i.e., the source of the data, the changes to the data that were made and the destination of the data.

To further exemplify the functionality of the integrated software application **30**, the following section will discuss an exemplary software development session, along with the modules used to effectuate the respective functions.

This hypothetical session commences with activation of the integrate software application **30**. Once the integrated software application **30** is launched, the graphical user interface **40** will be displayed and the user will have the opportunity to open modules in the navigation bar **48** or engage functions represented by buttons in the menu bar **42** or the tool bar **44**. For determining to which computer the user desires access, the user would begin by activating the site manager **70**, which causes the site manager window **72** to be displayed to the user. The site manager window **72** includes a first panel **74** and a second panel **76**. As shown in FIG. **11**, the first panel **74** of the site manager window **72** displays the defined/available remote computers **22***a* for the user's selection. As discussed above, the second panel **76** of the site manager window **72** displays a server profile for a selected remote computer **22***a*, comprising connection information **78**, including, but not limited to, the following fields: Profile Name **78***a*, Host Address **78***b*, User, Password, FTP port **78***e* and Telnet Port **78***f*. As will be appreciated, the site manager can be configured to search the network for servers or certain types of servers and display the found servers for selection by the user.

The server profiles **170** may be populated by selecting a folder icon **172** to use as a parent directory **174**. Once a parent directory **174** is opened, the user may click on the New button **176** to create a new server profile **170**. Therefore, it should also be understood that the site manager **70** allows the user to create new server profiles **170** by entering the necessary connection information **78**. To edit an existing server profile **170**, the user must select a remote computer **22***a* and click the Edit button **178**. After the Edit button **178** is selected, the cursor may be moved to the Profile Name **78***a* for editing or modification, or the user may click on the Option button for Advance Network/Server Connectivity Configuration Settings.

The text displayed in the Profile Name **78***a* field can be a profile name **78***a* that was selected in the first panel **74** of the site manager window **72** or text the user enters in creating a profile for a remote computer **22***a* or host. The Host Address **78***b* field may contain an IP address or a resolvable DNS host name of the FTP, SFTP, Telnet, SSH, REXEC, HTTP, or SHTTP server for the respective host definition. The User **78***c* field may contain the login name that the user will enter to access the remote server computer FTP account. If the selected remote computer **22***a* accepts anonymous FTP requests, "anonymous" may be entered in this field. The

Password **78***d* field may contain a password **78***d* for the remote server computer FTP account, unless an anonymous login is used; then, the Password **78***d* field may remain blank. The FTP port **78***e* field is set by default to **21**, since most server computers **22***a* accept FTP connection requests on port **21**, however, the FTP Port **78***e* field may be changed as needed. The Telnet Port **78***f* field is set by default to **23**, since most server computers **22***a* accept Telnet connection requests on port **23**, however, the Telnet Port **78***f* field may also be changed as needed.

Once the user selects a remote computer **22***a* to access, the connection information **78** for the selected remote computer **22***a* is returned by the site manager **70** and displayed to the user. Then, the user is given the option of connecting to the selected remote computer **22***a* by selecting the Connect Telnet button. When the Connect Telnet button is selected, the server module **160** is activated. To connect to the remote computer **22***a*, the server module **160** utilizes the connectivity layer **180**. More specifically, as is known in the art, the connectivity layer **180** utilizes the connection information **78** with TCP/IP and other similar networking protocols to interconnect with the remote computer **22***a*. Once the server module **160** has made an initial connection with the selected remote computer **22***a*, a server module window **162** is displayed to the user. The server module window **162** displays the name of the remote computer **22***a* to which the user is trying to connect.

Prior to opening a session on a particular host, the user may be required to login or the server module **160** may automatically log the user on (depending on the settings that the user has selected in the server profile **170**, i.e., save login and password). FIG. **10** shows a server module window **162** that is configured for automated login, with a home path preset to the integrated software application's SAS® directory. The combination of the site manager **70**, the server module **160** and the connectivity layer **170**, enable the user to seamlessly access SAS® documents, log files and output files stored at the remote computer **22***b*.

Once the local computer **22***b* accesses a remote computer **22***a* using the combination of the site manager **70**, the server module **160** and the connectivity layer **170**, the document manager **60** will be activated automatically. Moreover, to view the available files for a selected computer, the document manager window **170** may be displayed to the user. As shown in FIG. **12**, the document manager window **170** includes a local panel **172** and a remote panel **174**. Each of these panels, **172**, **174** displays the available files for the respective computers **22***b*, **22***a* as a file tree structure, as shown in FIG. **12**. The user may then select one or more of the available files for editing or visualizing. In the preferred embodiment of the present invention, files that are located in the local panel **172** are resident on the local computer **22***b* and files that are located in the remote panel **174** are resident on the remote computer **22***a*, but it should be appreciated that such designations are for explanatory purposes only and that other variations of network systems and computer designations could be employed.

The document manager **60** also allows the local computer **22***b* to perform various Windows® commands, such as, creating new files, renaming, deleting and opening existing files, printing files, copying, cutting and pasting information to the Windows® clipboard, and other standard commands that are generally known in the art. In addition, the document manager **60** provides a Search Option **69**. As shown in FIG. **13**, selecting the Search Option **69** opens the search option window **69***a* and allows users to search any file system that is accessible to the local workstation/local computer **22***b*, in accordance with generally known file searching techniques, including by exact or partial file name, modification date or date range, and content.

To open a file displayed in the local panel **172**, the user may double-click on the selected file, or highlight the selected file and start the desired module (i.e., the editor **80** or the visualizer **120**). If the user double-clicks on a file located in the local panel **172**, the editor **80** will automatically open and display the file. To open and edit a file displayed in the remote panel **174**, it is preferable that the user drag a selected file from the remote panel **174** of the document manager **60** and drop the selected file in the local panel **172** of the document manager **60**. It should also be understood by those with skill in the art that other methods for opening and moving files may be employed.

To retrieve a file that is stored on a remote computer **22***a*, the document manager **60** may utilize a file transfer program **64**, in connection with the site manager **70** and the connectivity layer **180**. For example, as is known in the art, the document manager **60** may send a request to the file transfer program **64** to import the selected file from a particular remote computer **22***a*. In response to this request, the file transfer program **64** may communicate with the remote computer **22***a* via the connectivity layer **180** and instruct the remote computer **22***a* to send the selected file to the local computer **22***b*. When the selected file is being transferred from the remote computer **22***a* to the local computer **22***b*, the intelligent module **62** of the document manager **60** may compile file transfer information **64**, as noted above. It should also be understood that, while it is preferred to have the intelligent module **62** compile file transfer information **64**, other similar modules may be equally capable of accomplishing the task of compiling file transfer information **64** for the system **20**.

Again, for exemplary purposes only, it is assumed that the user has chosen to edit the code before visualizing it. As mentioned above, to begin editing files, the user may either double-click on the selected file, which automatically opens the editor **80**, or the user may highlight the selected file and then open the editor **80**. To open the editor **80**, the user need only double-click on the Editor button **48***c* located in the navigation bar **48** of the graphical user interface **40**, as shown in FIG. **3**.

As shown in FIG. **6**, once the editor **80** begins the editing process (the default setting is Full Screen mode), the contents of a selected file are returned from the document manager **60** and displayed to the user beside a navigation bar **48** bar. For editing the code and implementing advanced code-handling capabilities, the editor **80** also includes features, such as, language-aware syntax highlighting, warning and error log file highlighting, automatic line numbering, automatic completion of code segment based on program templates, tree views of program blocks and code templates **106**. By highlighting key code statements, the language-aware syntax highlighting makes the code easier to read and edit. In addition, by highlighting the code, based on information contained within the warning and error log files, errors in the code are more apparent and the code is easier to trouble-shoot.

To allow the user to customize, edit and maintain error messages and the corresponding debugging hints, the message manager **88** is provided. More specifically, the message manager **88** allows the user to create, update and delete error messages. For example, the user can click on any error message in the log and in response to this selection, the message manager **88** may compare the selected error message to an existing repository of error messages The reposi-

tory of error messages can be stored locally and/or centrally in a remote server accessible and sharable by the entire workgroup or the entire enterprise. If the selected error message matches one of the existing error messages, a debugging window will pop-up. The debugging window will display the original error message, along with any corresponding debugging hints that are associated with the original error message as provided by the message manager **88**. If the selected error message does not match one of the existing error messages, the message manager **88** may automatically read the new message into the repository of error messages. Additionally, the user may have the option to associate debugging hints with the new error message.

To further add to the utility of the editor **80**, the user can open the Enhanced Editor Options window **84** by clicking the Editor Configuration button **86** in the Options pull-down menu. The Enhanced Editor Options window **84** is further comprised of a General tab **84***a*, a Font tab **84***b*, a Color tab **84***c* and an Execution tab **84***d*. As is generally understood in the art and as shown in FIG. **14***a*, the font type, size and style of the code may also be customized by the user by selecting the Font tab **84***b* in the Enhanced Editor Option window **84**. Additionally, as shown in FIG. **14***b*, the Color tab **84***c* of the Enhanced Editor Options window **84** may be selected to allow the user to select the colors that are used in connection with various syntactically significant language elements in the SAS® program file, thereby allowing the user to customize the language-aware syntax highlighting and warning and error log file highlighting functions. To further configure the user workspace, the editor **80** allows the user to choose whether or not to display line numbers in connection with editing the code. For example, as shown in FIG. **14***c*, the General tab **84***a* can be selected by the user and may provide options for selecting a line numbering button representative of disabling or enabling the line numbering, specifying printing options or indicating the use of alternate editor. For allowing the integrated software application **30** to configure the execution path for selected files, the Execution tab **84***d* can be selected by the user and the execution mode and execution location may be defined (i.e., Locally or Remotely), as illustrated in FIGS. **14***d*&*e*. By configuring the execution path for selected files, the user can execute the code on local or remote computers **22***b*, **22***a* or engines.

Once the selected code is displayed on the editor window **82**, the user can begin to edit the code. Although the default setting for the editor window **82** is the Full Screen mode, the user can also select a Split Screen mode. The Split Screen mode splits the editor window **82** into two panels, i.e., the tree view panel **82***a* and the code view panel **82***b*. To enhance the ability of the user to navigate within the body of the code, the tree view panel **82***a* displays the tree view **90**, which is comprised of a group of active elements **92**. The tree view panel **82***a* displays a high-level representation of the code and the code view panel **82***b* displays the corresponding code that is associated with a highlighted active element **92**. To this end, the editor **80** works in connection with the parser layer **140** to parse the code in a manner that allows the editor **80** to display a tree view **90** comprised of active elements **92** that are representative of code section that perform important functions, such as, the introduction of new variables or the execution of append, print or similar functions. Thus, the user can navigate through the code by clicking on the desired active element **92**, which causes the code that corresponds with that active element to be displayed in the code view panel **82***b*.

The user can also add pre-existing code to the program being edited, by opening the template manager **100**. The template manager **100** allows the user to select existing templates **106** and to integrate the code associated with those templates **106** into the code by simply clicking on the paste button or by utilizing standard cut and paste tools, or similar functions, as will be explained in greater detail below.

Once the template button **44***a* is selected, the template manager **100** is activated and the template manager window **101** is opened. It should be appreciated that the template manager **100** may be a separate browser; therefore, the template manager window **101** may remain open throughout the users session. The template manager window **101** may be further comprised of a template directory panel **101***a* and a template code panel **101***b*. The template directory panel **101***a* may display a directory **104** of template folders **105** or available templates **106**. To display the code associated with an available template **106**, the user may select a file folder containing available templates **106** from the directory **104** and select an available template **106**, which is located within the selected file folder. Once a template **106** is selected, the template code **106***a* associated with the template **106** is returned to the template manager **100** and displayed in the template code panel **101***b*.

To insert the template code **106***a* associated with a selected template **106** directly into the code that is being edited, the user may click the Copy button **102** on the template manager window **101**; this places the template code **106***a* associated with the selected template **106** into the Windows® clipboard. Then, the user should place the cursor in the desired location within the code and select the Paste button **103**. Or the user may simply click the paste button and the template will be copied directly into the current location of the cursor in the document.

The template manager **100** may also allow the user to create new template folders **105** for storing templates **106**, to create new templates **106** and to edit existing templates **106**. These templates can reside on either the local drive or the network drive. In addition, for allowing the template manager **100** to import additional templates **106** from remote computers **22***a*, the template manager **100** also enables the user to browse web-based templates **108**. As shown in FIG. **15**, once the web-based templates **108** are accessed and displayed on the template manager window **101**, the web-based templates **108** may be utilized in a manner similar to the templates **106**. As shown in FIG. **16**, additional web-based templates **108** may be added to the template manager **100** by the user. It should also be understood that the templates **106** are web enabled, i.e., the user can associate links or URLs with the template during creation. Thus, users may be capable of clicking on a link and causing the template manager **100** to automatically activate a web browser to display any content associated with the link.

Once the user has completed the editing or development of the code, the user can execute and debug the code. In addition, the code can be executed locally or remotely. As is known in the art, the user may also use the editor **80** to set break points **112** in the code. As shown in FIG. **23**, break points **112** can be set by selecting the line numbers that correspond to the intended location of the break points **112**. It should also be appreciated that by setting break points **112** in the code, the code can be executed in its entirety or as a block of code with the additional option of skipping specified code segments within the selected blocks.

The site manager **70**, the document manager **60** and the editor **80** work in conjunction with one another to execute the code. For example, the site manager **70** manages the connections between the local computer **22***b* and the remote host/remote computer **22***a*; the document manager **60** tracks

the associations between the code, the log files and the output files that are generated and the remote system on which the code is to be executed; and the editor **80** allows the user to modify the code. Moreover, for assisting users in developing and maintaining software, the editor **80** and the visualizer **120** have an integrated relationship. For example, each of the active elements **92** displayed in the tree view **90** may also be represented in the visualizer **120** and any changes made in the editor **80** can be simultaneously reflected in the visualizer **120**.

To execute code remotely when the code resides on a remote computer **22***a*, the code is first copied to a directory on the local computer **22***b*. Next, the user should open the local copy of the code. After the local copy is opened and returned to the editor **80**, the code view panel **82***b* will display the code. The user can also use the document property wizard to specify the server and the location in which they intend to execute the code. The server or location may be selected by browsing the server list in the site manager **70**.

To execute code remotely when the code resides on a local workstation/local computer **22***b*, the user first instructs the site manager **70** to make a connection to the remote computer **22***a*. Then, the user may cause the document manager **60** to copy the code from the local computer **22***b* to a directory **104** on the remote computer **22***a*. To select code for execution, the user can drag an icon representing the selected code from the local panel **172** of the document manager **60** window and drop the icon in the remote panel **174** of the document manager **60** window. It should also be appreciated that the selected code could be copied by other means that are generally known in the art. Next, the user should open the local copy of the code. After the local copy is opened, the editor window **82** will display the code.

To execute the code or code segments, the user selects the Execute Program button **44***a* on the tool bar **44** or in the Right-Click menu. Once the Execute Program button **44***a* is selected, the server module **160** connects to the proper computer **22***a*, **22***b* using the connectivity layer **180** and causes the execution script, which may be defined in the site manager **70**, to operate on the selected code. After execution of the code is complete, a system prompt will be displayed. The user may then type "exit" to return to the editor **80** window; the document manager **60** automatically transfers the session's .log an .lst files to the same directory **104** from which the code was copied and displays them as separate tabs on the Editor **80** window. The user can also configure the remote execution function to that it will exit automatically.

As shown in FIGS. **9** and **17**, the visualizer **120** may be used to show the program flow **122** or the data flow **124** of the selected code on the visualizer window **121**. Additionally, the user will be able to toggle between the program flow display **122***a* and the data flow display **124***a* by selecting the View Program Flow button **122***b* or View Data Flow button **124***b*, respectively. As shown in FIG. **9**, the program flow **122** is displayed as a default and displays program flow icons **126**, which are graphical representations of code sections, in the order that they occur in the code.

For generating the program flow icons **126**, a document view engine **200** is provided. The document view engine **200** operates in conjunction with the parser layer **140** to parse the code. Using information provided by the parser layer **140**, the document view engine can intelligently recognize and arrange individual procedures and data blocks on the visualizer window **121** and represent the procedures and data blocks as program flow icons **126**. The document view engine **200** may also allow users to assign meaning and attributes to tokens **144**, which are identified by the parser layer **140**. By assigning meanings and attributes to tokens **144**, the document view engine **200** allows the visualizer to create program flows **122** and data flows **124**.

As shown in FIG. **17**, the visualizer **120** may also show the data flow **124** of the subject code. The data flow **124** is generated by parsing the code, tracing the flow of the data through the code and displaying individual processes and data blocks in separate columns with arrows that connect the program flow icons **126** and indicate the direction of the data flow. In addition, as shown in FIG. **18**, the data flow visualizer also allows the user to combine flows in a step-wise manner, thereby following the flow of the data from start to finish. As the user clicks the Step-wise button **121***a* located on the visualizer window **121**, shown in FIG. **17**, the visualizer **120** and the document view engine **200** may re-generate the data flow **124***a* on the visualizer window **121** and collapse the number of program flow icons **126** that comprise the data flow **124**, ultimately showing the entire lineage of the data (i.e., where the data came from, how the data has been processed and where the data was stored). Thus, the visualizer **120** enables the user to view a representation of the flow of data during execution of selected code one step or program statement at a time. It should also be appreciated that the user may take a single data flow **124** and reverse the step-wise function, thereby expanding the number of program flow icons **126** that comprise the data flow **124** and showing the data flow **124** for individual sections or blocks of code.

It should also be appreciated that the integrated software application **30** allows changes to the code to be made textually or visually, i.e., by using the editor **80** or the visualizer **120**, respectively. Editing, creating or developing new code visually using the visualizer is achieved by reverse engineering the exiting code or code templates, i.e., SAS®, SQL®, SPSS®, DB2 UDB®, Oracle® RDBMS and UNIX® Scripts, and displaying the code visually using icons. As the user manipulate these icons visually, code will be generated. Any changes to the code via the visual interface can be forward engineered to assume a textual format capable of being executed on the respective Data Development and Data Management System. Therefore, the integrated software application **30** is capable of producing a textual file that is derived from a visual model and executing the derived textual file.

As shown in FIG. **19**, the visualizer window **121** may also be configured to display a split view. When the visualizer window **121** is in split view mode, the visualizer window **121** will be comprised of a flow panel **121***b* and an visualizer code panel **121***c*. The flow panel **121***b* will display either the program flow **122** or the data flow **124**, and the visualizer code panel **121***c* will display the code for program flow icons **126**, which are shown in the flow panel **121***b*. Moreover, by clicking on an icon in the program flow window or data flow window, the user can cause the editor **80** window **100** to display the portion of the code that corresponds to the program flow icon **126** that was selected. This is especially helpful in debugging the code.

For example, as shown in FIG. **20**, when elements appear in red, this signifies that the highlighted element contains an error in the underlying code. If the user selects the highlighted element, a pop-up window may be displayed to the user depicting the code associated with the highlighted element, along with the corresponding Error log, i.e., the editor **80** will scroll to the corresponding section of code and display the code to the user, while also displaying the Error

log in close proximity to the code. It should be appreciated by those with skill in the art that during the user session, the user may freely navigate between the document manager **60**, the editor **80** and the visualizer **120**, as needed, by selecting the corresponding icon in the navigation bar **48**.

It should also be understood that the user can visualize the execution log. Visualizing the execution log will show the exact path of the program flow **122** and data flow **124**. The program flow **122** and the data flow **124** will be exact because they are based on the actual execution of the code. This in turns provides additional debugging and optimization information, such as, the code section that will get executed, how much data is being processed, the execution time for the code, the external files, library or macros that are referenced by the code, the format for the fully instantiated macro, etc.

For parsing the code, the document manager **60** first determines the file type for a selected file, i.e. the SAS®, SPSS®, SQL®, DB2 UDB®, Oracle® RDBMS etc. After the file type for a selected portion of code is determined, the parser layer **140** deploys the corresponding file parser **142**, e.g., a file parser **142** that corresponds to, in this case, one of a variety of data manipulation and/or data management programming languages. By deploying the appropriate file parser **142**, the parser layer **140** also activates the respective rules and logic that correspond to the detected programming language. Therefore, users are capable of developing, editing and maintaining code that can be executed by more than one data manipulation and/or data management program.

As mentioned earlier, the parser layer **140** is capable of processing varying file types, as the integrated software application **30** has been designed to be language aware. For example, as mentioned above, the document manager **60** recognizes file types and the integrated software application **30** includes enhanced, standalone productivity tools, such as, generic text editors, the Windows File Manager and File Transfer programs **68**. In addition, these productivity tools are also designed to work seamlessly with the integrated software application **30** by implementing XML protocols, as is generally known in the art. Thus, although the preferred embodiment of the present invention is designed to interact with SAS® code, it should also be appreciated that the system will also be capable of parsing and interpreting other file types, such as, SPSS®, SQL®, DB2 UDB®, Oracle® RDBMS, etc.

As is generally known in the art, after the file parser **142** retrieves code from the document manager **60**, the file parser **142** breaks the code document **146** into individual words/tokens **144**. Based on the class of the individual tokens **144**, the file parser **142** identifies and tags the tokens **144**. Tokens **144** can be tagged to indicate that they are one of a variety of classes, such as, a keyword token **144***a*, a newline token **144***b*, a quotestring token **144***c*, a macro token **144***d* and a comment token **144***e*. By tagging the tokens **144**, the parser layer **140** enables the document view engine **200** to recognize and display the program flow **122**. As shown in FIG. **21**, the document view engine **200** employs a predefined class structure for recognizing and displaying the tokens **144** provided by the file parser **142**. An example of the class structure as it might be implemented in a parsed document/file is shown in FIG. **22**.

While specific embodiments of the present invention have been described in detail, it will be appreciated by those skilled in the art that various modifications and alternatives to those details could be developed in light of the overall teachings of the disclosure. For example, the processes described with respect to computer executable instructions can be performed in hardware or software without departing from the spirit of the invention. Furthermore, the order of all steps disclosed in the figures and discussed above has been provided for exemplary purposes only. Therefore, it should be understood by those skilled in the art that these steps may be rearranged and altered without departing from the spirit of the present invention. In addition, it is to be understood that all patents discussed in this document are to be incorporated herein by reference in their entirety. Moreover, while the present invention may be described in terms of a particular programming language, it should also be understood that the present invention may be programmed in various other software languages. Accordingly, the particular arrangement disclosed is meant to be illustrative only and not limiting as to the scope of the invention which is to be given the full breadth of the appended claims and any equivalents thereof.

What is claimed is:

1. An integrated development environment, comprising:

a document manager for retrieving source code programmed using one of a plurality of types of data manipulation languages;

an editor for displaying the retrieved source code and providing a means for a user to edit the retrieved source code;

a parser layer which detects the one of the plurality of types of data manipulation languages in which the retrieved source code is programmed and which activates rules and logic applicable to the detected one of the plurality of types of data manipulation languages; and

a visualizer dynamically linked to the editor for displaying graphical representations of flows within the retrieved source code using the rules and logic applicable to the detected one of the plurality of types of data manipulation languages and activated by the parser, wherein the editor, parser layer and visualizer cooperate such that edits made to the source code using the editor are automatically reflected in the graphical representations of flows displayed by the visualizer and edits made to the graphical representations of flows in the visualizer are automatically reflected in the source code displayed by the editor.

2. The integrated development environment as recited in claim **1**, wherein the graphical representations of flows depict data flows.

3. The integrated development environment as recited in claim **1**, wherein the graphical representations of flows depict program flows.

4. The integrated development environment as recited in claim **1**, wherein the graphical representations of data flows are expandable and collapsible.

5. The integrated development environment as recited in claim **1**, wherein the document manager retrieves all files related to the source code to be edited.

6. The integrated development environment as recited in claim **1**, wherein the document manager comprises a site manager and a connectivity layer for retrieving source code from one or more remote computers.

7. The integrated development environment as recited in claim **6**, wherein the document manager comprises a security layer for managing secure connections with the one or more remote computers.

8. The integrated development environment as recited in claim **1**, wherein the editor comprises a template manager for allowing preprogrammed segment of source code to be placed within the source code being edited.

9. The integrated development environment as recited in claim 8, wherein the template manager is adapted to automatically correct segments of the source code.

10. The integrated development environment as recited in claim 8, wherein the template manager is adapted to automatically generate segments of the source code.

11. The integrated development environment as recited in claim 1, further comprising a means for allowing the source code to be executed both locally and remotely.

12. The integrated development environment as recited in claim 11, wherein the parser layer further examines error log files generated by the means for allowing the source code to be executed to determine segments of the source code determined to include errors.

13. The integrated development environment as recited in claim 12, wherein the visualizer cooperates with the parser layer to change the appearance of displayed flows as a function of the source code segments determined to have errors.

14. The integrated development environment as recited in claim 12, wherein the editor cooperates with the parser layer to change the appearance of portions of the displayed source code as a function of the software segments determined to have errors.

15. The integrated development environment as recited in claim 12, further comprising a message manager cooperating with the parser layer for displaying debugging hints as a function of the source code segments determined to have errors.

16. The integrated development environment as recited in claim 15, wherein the message manager allows a user to edit and maintain debugging hints for a variety of different errors.

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IN THE

Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

JOSEPH MATAL, Interim Director, U.S. Patent and Trademark Office, and COMPLEMENTSOFT, LLC,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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QUESTION PRESENTED

Does 35 U.S.C. § 318(a), which provides that the Patent Trial and Appeal Board in an inter partes review "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," require that Board to issue a final written decision as to every claim challenged by the petitioner, or does it allow that Board to issue a final written decision with respect to the patentability of only some of the patent claims challenged by the petitioner, as the Federal Circuit held?

PARTIES TO THE PROCEEDING AND RULE 29.6 STATEMENT

Petitioner, who was Appellant below, is SAS Institute Inc. Petitioner has no parent company, and no publicly traded corporation owns 10% or more of any of its stock.

Respondents are ComplementSoft, LLC, Appellee and Cross-Appellant below, and Joseph Matal, Interim Director of the U.S. Patent and Trademark Office, who has now replaced former Director Lee, who was an Intervenor below.

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OPINIONS BELOW

The Patent Trial and Appeal Board's Decision to Institute *Inter Partes* Review (Pet. App. 103a-28a), and that Board's Final Written Decision (Pet. App. 41a-86a) and its Decision denying SAS's Request for Rehearing (Pet. App. 129a-34a) are all unreported. The Federal Circuit's opinion (Pet. App. 1a-40a) is reported at 825 F.3d 1341 (Fed. Cir. 2016). Its precedential order denying rehearing en banc (Pet. App.87a-102a) is reported at 842 F.3d 1223 (Fed. Cir. 2016).

JURISDICTION

The Federal Circuit denied rehearing en banc on November 7, 2016. This Court granted SAS's petition for certiorari on May 22, 2017. This Court has jurisdiction under 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

Each of the statutory provisions at issue was enacted by the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284 (2011), and is now codified in Title 35 of the United States Code. The text of each relevant provision is set forth in the Appendix to the Petition (Pet. App. 135a-48a).

STATEMENT

1. "The Leahy-Smith America Invents Act, 35 U.S.C. § 100 *et seq.*, creates a process called 'inter partes review.' That review process allows a third party to ask the U.S. Patent and Trademark Office to reexamine the claims in an already-issued patent and to cancel any claim that the agency finds to be unpatentable in light of prior art." *Cuozzo Speed*

Techs., LLC v. Lee, 136 S. Ct. 2131, 2136 (2016). "The Act converts inter partes reexamination from an examinational to an adjudicative proceeding, and renames the proceeding 'inter partes review.'" H.R. Rep. No. 112-98, at 46-47 (2011), *reprinted in* 2011 U.S.C.C.A.N. 67, 77 (H.R. Rep.); *Cuozzo*, 136 S. Ct. at 2137.

An important congressional objective of the Act was to ensure that the Board issue a complete final decision on all challenged claims, so that "a final decision in a post-grant review process will prevent the petitioner, a real party in interest, or its privy from challenging any patent claim on a ground that was raised in the post-grant review process." H.R. Rep. at 48, 2011 U.S.C.C.A.N. at 78. The detailed provisions of the Act bear this out.

Section 311—Filing and Scope of Inter Partes Review. A petitioner begins the inter partes review process by filing "a petition to institute an inter partes review of the patent," 35 U.S.C. § 311(a), which "may request to cancel as unpatentable 1 or more claims of a patent" under 35 U.S.C. § 102 or § 103, and then "only on the basis of prior art consisting of patents or printed publications." 35 U.S.C. § 311(b).

Section 312—Requirements of Petitions. Among other things, the petition filed under § 311 must "identif[y], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." *Id.* § 312(a)(3).

Section 313—Patent Owner's Preliminary Response. The owner of the challenged patent may file a "preliminary response" to the petition, setting forth "reasons why no inter partes review should be instituted." *Id.* § 313.

Section 314—Institution and Notice of Inter Partes Review. Section 314(a) sets forth the "threshold" for the Director's discretionary determination whether to institute inter partes review: "The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." *Id.* § 314(a). If the Director determines to institute inter partes review, "[t]he Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable." *Id.* § 314(c).

Other than notice of the fact of the institution, the statute imposes only one requirement as to the content of that notice: "Such notice shall include the date on which the review shall commence." *Id.* Nowhere in § 314 (or anywhere else in the AIA) is there a requirement that the Director's institution determination be reasoned—the statute calls this a "determination," not a "decision"—and, indeed, the absence of such a requirement is consistent with the Act's command that judicial review of an institution determination is generally unavailable: "The

determination by the Director whether to institute an inter partes review under this section shall be final and unappealable." *Id.* § 314(d); *Cuozzo*, 136 S. Ct. at 2140-42; *id.* at 2150-53 (Alito, J., concurring in part and dissenting in part).

Section 315—Estoppel, Bar, and Stays. Section 315, entitled "Relation to other proceedings and actions," sets forth certain consequences that other actions have on inter partes reviews, and vice versa.

If a petitioner has previously filed "a civil action challenging the validity of a claim of the patent," then inter partes review is barred. 35 U.S.C. § 315(a)(1). If a petitioner files such a civil action *on or after* the date the petitioner files a petition for inter partes review, then the civil action is automatically stayed, until the patent owner moves to lift the stay, or files a civil action or counterclaim alleging infringement of the patent, or moves the court to dismiss the action. *Id.* § 315(a)(2).

Similarly, inter partes review may not be instituted if the petitioner files the petition more than one year after service of a complaint alleging infringement of the patent. *Id.* § 315(b).

Estoppel, which is provided for in 35 U.S.C. § 315(e), is one of the most critical consequences of inter partes review. Section 315(e)(1) prevents a petitioner from burdening a patent owner with serial invalidity challenges: Once "a final written decision under section 318(a)" has been reached, neither a petitioner, nor the petitioner's privy or real party in interest, may "request or maintain a proceeding before the [Patent] Office with respect to that claim on any ground that the petitioner raised or

reasonably could have raised during that inter partes review."

A similar rule estops petitioners from mounting invalidity challenges in later proceedings before district courts or the U.S. International Trade Commission: If an inter partes review "results in a final written decision under section 318(a)," neither the petitioner nor the petitioner's privy or real party in interest may assert . . . that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. § 315(e)(2).

Section 316—Conduct of Inter Partes Review, Regulations, and Amendment. Section 316 empowers the Director of the Patent Office to prescribe regulations, and requires the Director to promulgate regulations governing certain specified aspects of inter partes review. Among the regulations that the Director must prescribe are those "setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a)" (35 U.S.C. § 316(a)(2)), "establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title" (*id.* § 316(a)(4)), and "requiring that the final determination in an inter partes review be issued not later than 1 year after the date" of institution, "except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months . . . ." *Id.* § 316(a)(11).

In promulgating these regulations, the Director "shall consider the effect of any such regulation on the economy, the integrity of the patent system, the

efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter. *Id.* § 316(b).

Section 316 also assigns to the Patent Trial and Appeal Board the duty to conduct "each inter partes review instituted under this chapter." 35 U.S.C. § 316(c).

Finally, § 316(d) allows a patent owner to file one motion to amend the patent during an inter partes review, in which the patent owner may propose to cancel a challenged claim or propose "a reasonable number of substitute claims." However, such an amendment "may not enlarge the scope of the claims under the patent or introduce new matter." 35 U.S.C. § 316(d)(1), (3).

Section 317—Settlement. Section 317 provides that an inter partes review that has not yet reached a final decision "shall be terminated with respect to any petitioner" if the petitioner and patent owner jointly request. However, if all petitioners have settled out of an inter partes review, the Patent Office retains the discretion to "terminate the review or proceed to a final written decision under section 318(a)." 35 U.S.C. § 317(a).

Section 318—Final Written Decision. Section 318, entitled "Decision of the Board," contains the provision most central to this case. Section 318(a) sets forth the requirements of a "final written decision": "If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim

challenged by the petitioner and any new claim added under section 316(d)."

Additionally, § 318(b) requires the Board to "issue and publish a certificate (i) "canceling any claim of the patent determined to be unpatentable," (ii) "confirming any claim of the patent finally determined to be patentable," and (iii) "incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable." And § 318(c) provides that "[a]ny proposed amended or new claim determined to be patentable" shall have the same effect as a reissued claim under 35 U.S.C. § 252, *i.e.*, persons who made, purchased, used, or imported the invention, or made substantial preparations to do so, may receive intervening rights that protect them from an infringement claim. *See Marine Polymer Technologies, Inc. v. HemCon, Inc.*, 672 F. 3d 1350, 1361-62 (Fed. Cir. 2012) (en banc) (explaining doctrine of intervening rights).

Section 319—Appeal. "A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision" to the Court of Appeals for the Federal Circuit, pursuant to 35 U.S.C. §§ 141-144. 35 U.S.C. § 319.[1]

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[1] Section 6 of the America Invents Act also created parallel regimes for "Post-Grant Review" and review of "Covered Business Method Patents." Those statutory schemes contain the identical operative language as Sections 314(a) and 318(a) of Title 35. *See* 35 U.S.C. §§ 324(a) (entitled "THRESHOLD" for "Institution of post-grant review") & 328(a) (entitled "FINAL WRITTEN DECISION"); AIA, 125 Stat. 284, 329 § 18(a)(1) (providing that post-grant review for covered business method patents "shall be regarded as, and shall employ the standards

2. On September 14, 2012, ComplementSoft sued SAS for patent infringement in the Northern District of Illinois. *See* Complaint, *ComplementSoft, LLC v. SAS Institute Inc.*, No. 1:12-cv-07372 (N.D. Ill. Sept. 14, 2012) (Dkt. 1). ComplementSoft's complaint alleged that SAS had infringed "one or more claims of the '936 Patent [ComplementSoft's U.S. Patent No. 7,110,936], including but not limited to at least claims 1, 2, 3, 4, 8 and 10." *Id.* at ¶¶ 14-16; Pet. App. 42a, 104a. The '936 Patent contains 16 claims, numbered 1 through 16. J.A. 132-33.

On March 29, 2013, within the one-year window set forth in 35 U.S.C. § 315(b), SAS petitioned for inter partes review of the '936 Patent, challenging the patentability of all 16 of the patent's claims, either as anticipated (35 U.S.C. § 102), or obvious (*id.* § 103) in view of prior art. Pet. App. 104a-05a. On August 12, 2013, the Patent Trial and Appeal Board, acting as the Director's delegate for making institution determinations pursuant to 37 C.F.R. § 42.4(a), and believing that it had the authority to institute inter partes review as to fewer than all 16 of the claims challenged in SAS's petition, *see* 37 C.F.R. § 42.108(a), instituted inter partes review only as to claims 1 and 3-10. Pet. App. 106a, 127a.

After receiving evidence and argument, the Patent Trial and Appeal Board on August 6, 2014 issued its "final written decision" under 35 U.S.C. § 318(a). Pet. App. 41a. Despite the statutory mandate that the

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(continued...)

and procedures of, a post-grant review under chapter 32 of title 35, United States Code . . .").

Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," the Board's final written decision addressed only claims 1 and 3-10, and not claims 2 and 11-16 of the '936 Patent. Pet. App. 84a. The Board largely ruled consistently with the reasoning of its August 2013 institution decision, although it reversed course as to claim 4 of the '936 Patent, adopting a new construction of that claim never before raised by the parties or suggested by the Board. Pet. App. 70a.

SAS requested rehearing before the Board, challenging the substance of its patentability ruling with respect to claim 4 of the '936 Patent, and its procedural failure under § 318(a) to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." The Board denied rehearing on November 10, 2014. Pet. App. 129a.

3. SAS and ComplementSoft each timely appealed to the Court of Appeals for the Federal Circuit.

a. SAS again challenged the Board's determination of patentability with respect to claim 4 as well as the Board's refusal to issue a final written decision with respect to the patentability of all 16 patent claims it had challenged. Pet. App. 2a. ComplementSoft appealed the determination of unpatentability with respect to claims 1, 3, and 5-10 of the '936 Patent. Pet. App. 7a. The Director of the Patent and Trademark Office intervened to defend the Board's decision to issue a final decision as to

only some of the claims challenged by SAS. *See* Pet. App. 1a.

b. After briefing had been completed in this case, but before oral argument, the Federal Circuit, on February 10, 2016, issued a 2-1 panel decision in *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016). In *Synopsys*, the divided panel held that the text of § 318(a)—requiring a final written decision with respect to "any patent claim challenged by the petitioner"—was materially different from the language of § 314(a), which allows institution of an inter partes review where there is a reasonable likelihood that the petitioner would prevail with respect to "at least 1 of the *claims challenged in the petition*." *Id.* at 1315. Accordingly, the panel majority concluded, "the claims that the Board must address in the final decision are different than the claims raised in the petition." *Id.* The *Synopsys* majority added that, "[a]lthough we find that the language is clear, if there were any doubt," the Board was authorized to adopt this partial-final-written-decision regime under its rulemaking authority, *id.* at 1316; *see* 35 U.S.C. § 316(a)(2); *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

c. Judge Newman filed a lengthy dissent in *Synopsys*, setting forth several "principal concerns" with the majority's approach, most of which were caused by the erroneous construction of § 318(a):

- By giving the Patent Trial and Appeal Board the authority to "'pick and choose' which of the challenged patent claims and issues it will decide in these new proceedings" under

the AIA, the majority approved leaving some challenged claims unadjudicated; Judge Newman pointed out that this "absence of finality negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues." 814 F.3d at 1325.

- Judge Newman also pointed out that because decisions whether to institute inter partes review are not appealable, *see* 35 U.S.C. § 314(d), the majority's ruling improperly immunizes, from appellate review, patentability rulings made on a preliminary basis at the pre-institution stage of an inter partes proceeding. 814 F.3d at 1325-26.
- Judge Newman further emphasized that the majority ruling had—contrary to the statutory text—turned the institution phase of the inter partes process into "a short-cut to final judgment." *Id.* at 1326.

Synopsys did not seek rehearing *en banc* from the Federal Circuit, nor did it seek certiorari from this Court.

d. On June 10, 2016, the panel in this case issued its decision, affirming the Board's decision except with respect to claim 4 of the '936 Patent, as to which the panel vacated the Board's determination. Pet. App. 1a.

With regard to the question of whether the "final written decision" had to address the patentability of all 16 claims challenged by SAS under § 318(a), the panel divided 2-1. The panel majority viewed SAS's

argument that the Board must address all claims from the IPR petition in the final written decision [as] foreclosed by *Synopsys*." Pet. App. 22a.

Judge Newman again dissented. Pet. App. 23a. Reiterating many of the objections first outlined in her *Synopsys* dissent, Judge Newman summarized her objections to the majority's ruling:

> . . . . The PTO's position that it need not review some of the claims challenged in a petition for review via a post-grant proceeding is inconsistent with the Act. The PTO is authorized to refuse to institute review entirely—but a partial review cannot be inferred from the statute or accommodated to its purpose.
>
> The statutory provisions and the legislative purpose of substituting an agency tribunal for district court proceedings on aspects of patent validity are defeated by the PTO's position that it can leave some challenged claims untouched. The America Invents Act presents a new system of reviewing issued patents, providing for stays of district court proceedings, and estoppels in all tribunals, based on the PTO decision. Final determination of the validity of a challenged patent is not achieved when the PTO selects, at its sole and unreviewable choice, which claims it will review and which it will not touch.

Pet. App. 25a.

Judge Newman additionally noted that the statutory structure for inter partes review was carefully crafted by Congress, and its provisions are "designed to act in harmony, like a well-oiled engine." *Id.* at 26a. However, she added, "[i]ncorrect

implementation by the agency distorts the framework, providing the now-observed result of protracted litigation grinding against administrative obstinacy. The victim is the Nation's innovation economy." *Id.*

4. SAS petitioned for rehearing *en banc* on the issue of whether the Board was obligated to issue a final written decision on all 16 of the challenged claims. On November 7, 2016, over Judge Newman's dissent, the Federal Circuit denied SAS's petition. Pet. App. 87a-88a. Her dissent from the denial of *en banc* rehearing addressed, *seriatim*, each of the relevant sections of the Smith-Leahy America Invents Act relevant to inter partes procedures (35 U.S.C. §§ 311-316 & 318), demonstrating that the statute's individual sections, as well as the statute as a whole, anticipated that final written decisions in inter partes review proceedings must reach all of the claims challenged by petitioners, not merely a subset thereof, else the statutory regime enacted by Congress would not work as intended. Pet. App. 93a-102a. Instead, the partial-institution, partial-decision regime adopted by the Patent Trial and Appeal Board, and now endorsed by two divided Federal Circuit panels, "leaves the unselected claims dangling, lacking both finality and estoppel, preventing the expediency and economy and efficiency that motivated the America Invents Act." Pet. App. 92a.

5. On May 22, 2017, this Court granted SAS's petition for certiorari. J.A. 79.

SUMMARY OF ARGUMENT

"If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with

respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)." This is the entirety of 35 U.S.C. § 318(a), and it means what it says: The Board must decide the patentability of all of the claims challenged by the petitioner. In this case, SAS—the petitioner—challenged claims 1-16 of the ComplementSoft patent, but the Board only issued a final written decision on nine of those claims (claims 1 and 3-10). Because the Board was obligated, by a plainly worded statutory mandate, to decide all 16 of those challenged patent claims, the Federal Circuit's contrary decision should not be allowed to stand.

The Federal Circuit never analyzed the plain language of § 318(a)'s mandate. Instead, it looked to another section of the Act—§ 314(a), which sets forth the "threshold" for the Director's discretionary decision whether or not to institute inter partes review—and concluded that the reference there to "the claims challenged in the petition," when compared to § 318(a)'s reference to "any patent claim challenged by the petitioner," yielded the conclusion that "the text makes clear that the claims that the Board must address in the final decision are different than the claims raised in the petition." There is, however, no statutory indication that the Board has the discretion to address *fewer* claims than those challenged by the petitioner.

In particular, the Federal Circuit never analyzed the language of § 318(a), which is mandatory ("shall"), complete ("any claim challenged"), and strictly additive ("and any new claim added under section 316(d)"). The combination of the "shall" mandate with the broad and inclusive "any claim" language compels

the conclusion that the final written decision must reach all of the claims challenged by the petitioner; the Patent Office cannot reduce Congress's mandate by administrative fiat. *United States v. Rosenwasser*, 323 U.S. 360, 362-63 (1945), held that it was "unmistakable," and there was "no doubt," that the Fair Labor Standards Act's mandate that employers "shall" pay "any employee" a minimum wage did not leave any room for exceptions. The combination of "shall" and "any" here should have led the Federal Circuit to the same conclusion. The fact that § 318(a) defines the "any patent claim challenged" with respect to "the petitioner" rather than "the petition" does not narrow the required scope of the final written decision; a petitioner's only vehicle for challenging a claim is its petition, so the Board's duty under § 318(a) must be at least coextensive with the petitioner's selection of challenged claims, and must further reach "any new claim added" by amendment. There is absolutely no textual basis to conclude that the scope of a final written decision can be narrower than all of the claims challenged by the petitioner.

The Board's and the Federal Circuit's erroneous interpretation of § 318(a)'s mandate destroys the carefully crafted provisions of the America Invents Act. That Act was intended to be an efficient substitute for district-court invalidity litigation; under the Board's piecemeal adjudication scheme, blessed by the Federal Circuit, litigants now must confront prior-art-based anticipation (35 U.S.C. § 102) and obviousness (*id.* § 103) challenges in two tribunals, not just one. The better practice—and the one envisioned by Congress—was a single set of challenges before the Board, fully adjudicated,

completely appealable to the Federal Circuit, and estopping on later district-court litigation. The statute that Congress wrote was better policy and better practice than the one that the agency and the Federal Circuit re-wrote.

Nor can *Chevron* deference save the Patent Office's rejiggering of the statute's system of inter partes review. *Chevron* has rightly come under fire from courts and commentators as allowing the executive branch to creep too far under the legislative tent. This case is a compelling example of that executive-branch overreach. And, while there is much to be said for replacing or supplementing *Chevron* with the "impressive body of law sanctioning free substitution of judicial for administrative judgment when the question involves the meaning of a statutory term," *Pittston Stevedoring Corp. v. Dellaventura*, 544 F.2d 35, 49 (2d Cir. 1976) (Friendly, J.), *aff'd*, 432 U.S. 249 (1977), this case can be resolved by simply applying *Chevron* according to its terms: Under *Chevron* step one, the statute is clear in compelling the Board to issue a final and appealable written decision as to all challenged claims; moreover, the statute is completely bereft of any indication that Congress delegated to the agency the power to narrow its broad § 318(a) mandate. And, even if the inquiry proceeded to *Chevron* step two, "the agency's answer"—deciding the patentability of only some of the challenged patent claims—is not "based on a permissible construction of the statute." Rather, the Patent Office's approach would rewrite the fundamentals of the America Invents Act, which was designed to create an effective, efficient, and fair system for determining patentability.

ARGUMENT

I. THE FEDERAL CIRCUIT'S DECISION IS CONTRARY TO SECTION 318(a), AND TO THE AMERICA INVENTS ACT AND ITS PURPOSES

Section 318(a) is written in the plainest of English. It provides, as relevant here: "If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner . . . ." In this case, the conditions of § 318(a) were met—"an inter partes review [was] instituted and not dismissed"—and so the Board was obligated to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." Here, the petitioner (SAS) challenged all 16 claims of the ComplementSoft patent, but obtained a final written decision as to only nine of those 16 claims.

The Federal Circuit's contrary reading of the statute not only violates the canons of statutory construction; it also guts the America Invents Act of its intended effect—it "negates the AIA's purpose of providing an alternative and efficient forum for resolving patent validity issues," *Synopsys*, 814 F.3d at 1325 (Newman, J., dissenting), and throws a wrench into the works of a carefully crafted statutory regime. The Federal Circuit's judgment should be reversed, so that inter partes review under the America Invents Act is restored to its proper, intended scope.

A. Section 318(a) Requires "A Final Written Decision With Respect To The Patentability Of Any Patent Claim Challenged By The Petitioner"

Under the statute, "the patentability of any patent claim challenged by the petitioner" must be addressed in the Board's final written decision. 35 U.S.C. § 318(a). Here, the petitioner, SAS, challenged the patentability of claims 1-16 of the ComplementSoft patent. Pet. App. 42a. Under the plain language of § 318(a), the Board's final written decision should have addressed the patentability of all 16 of those claims, and the Federal Circuit should have remanded the case to the Board for decisions on the seven claims it did not address.

B. The Federal Circuit's Interpretation Of Section 318(a) Violates The Section's Plain Language By Allowing Final Written Decisions On Less Than "Any Patent Claim Challenged By The Petitioner"

The Federal Circuit ruled otherwise. Relying on its decision in *Synopsys*, 814 F.3d at 1316-17, the Court of Appeals concluded that "the differing language [in the institution-decision subsection, 35 U.S.C. § 314(a)] implies a distinction between the two subsections such that § 318(a) does not foreclose the claim-by-claim approach the Board adopted there and in this case." Pet. App. 21a.

The Federal Circuit's claimed distinction between § 314(a) and § 318(a) is not borne out by the statutory language. Section 314, entitled "Institution of inter partes review," provides—in the negative—

that the Director of the Patent Office "may not authorize an inter partes review to be instituted unless the Director determines that [the information contained in the parties' institution-related filings] shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." That statutory subsection—entitled "THRESHOLD"—sets forth the threshold standard for instituting an inter partes review, which is that the preliminary filings must demonstrate a reasonable likelihood of success on at least one of the "claims challenged in the petition." Section 314(a) does not, however, explicitly authorize the Director to "institut[e]" "an inter partes review" that is limited to fewer patent claims than are challenged in the petition, nor does it say that such a partial institution transforms the un-instituted patent claims into claims that are no longer "challenged by the petitioner," in the words of § 318(a).

The Federal Circuit in *Synopsys*, however, believed that there was a meaningful distinction between § 314(a)'s reference to "claims challenged in the petition" and § 318(a)'s requirement of a final written decision as to any "claim challenged by the petitioner." 814 F.3d at 1315 (citing *Bailey v. United States*, 516 U.S. 137, 146 (1995)). Pursuant to the Federal Circuit's distinction, "the claims challenged in the petition" and "any claim challenged by the petitioner" carry two entirely different meanings—the former referring to the claims challenged in the initial filing, and the latter to the claims that the Board, in its unreviewable discretion, allows the petitioner to continue to litigate post-institution.

That distinction is an untenable one as a matter of statutory language. For one, the provision governing institution, § 314(a), does not suggest that the Director is allowed to institute inter partes reviews on only some claims; rather, the Director "may not authorize an inter partes review to be instituted unless the Director determines that the" pre-institution filings show "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Indeed, all of the relevant AIA provisions—§§ 312(a)(3), 314(a), 315(e), 316(a), and 318(a)—assume that inter partes review will proceed, and take the place of litigation, on all claims challenged by a petitioner in a petition; none suggests that inter partes review will proceed on only a subset of the challenged claims.

For another, the facts of this case illustrate why the partial-institution, partial-decision practice is contrary to the statute. Here, SAS filed a petition challenging all 16 claims of the ComplementSoft patent. Section 318(a) thus commanded the Board that it "*shall* issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." "Shall," of course, is "the language of command." *Escoe v. Zerbst*, 295 U.S. 490, 493 (1935); *see also, e.g.*, *Kingdomware Techs., Inc. v. United States*, 136 S. Ct. 1969, 1977 (2016) (the term "shall" "normally creates an obligation impervious to judicial discretion").

"Shall" means that the Board *must* do something. What must it do? Again, the plain language of the statute answers that question. The Board "shall issue a final decision," and that final decision must be "with respect to *any* patent claim challenged by

the petitioner." That broad command reaches all 16 of the claims in the ComplementSoft patent, given the linguistically unlimited scope of § 318(a)'s "*any* patent claim challenged by the petitioner."

"Read naturally, the word 'any' has an expansive meaning." *United States v. Gonzales*, 520 U.S. 1, 5 (1997) (holding that "any other term of imprisonment" as used in 18 U.S.C. § 924(c)(1) means "all 'term[s] of imprisonment,' including those imposed by state courts"). *See also, e.g.*, *United States v. Alvarez-Sanchez*, 511 U.S. 350, 358 (1994) ("any law enforcement officer" includes "federal, state, or local" officers); *Collector v. Hubbard*, 79 U.S. (12 Wall.) 1, 15 (1871) (it is "quite clear" that "no suit shall be maintained *in any court*" was statutory language that "includes the State courts as well as the Federal courts"). Thus, where Congress does not "add language limiting the breadth of that word," "any" means "all." *Gonzales*, 520 U.S. at 5. As used in § 318(a), then, the "shall issue a final decision with respect to" mandate, when combined with the phrase "any patent claim challenged by the petitioner" means that the final decision must reach "all" of the claims—every claim—challenged by the petitioner.

The addition of the mandatory "shall" to the expansive "any" compels this construction. This Court's decision in *Rosenwasser*, 323 U.S. 360, confirms that. *Rosenwasser* held that a statute providing that an employer "shall" pay a minimum wage to "any individual employed by an employer"—specifically, the Fair Labor Standards Act of 1938. 52 Stat. 1060—did not allow the employer to pay only some of his employees the statutory minimum wage. Section § 6(a) of that Act required that "[e]very

employer shall pay to each of his employees who is engaged in commerce or in the production of goods for commerce" a specified minimum wage. 52 Stat. at 1062, § 6(a) (1938). That same Act defined "[e]mployee" as "any individual employed by an employer." *Id.* at 1060, § 3(e). Rosenwasser had convinced the District Court for the Southern District of California that his piece workers were not covered by the minimum-wage provision of the FLSA, but this Court reversed, holding that "[t]he plain words of the statute" gave an "unmistakable answer to the problem":

> The use of the words 'each' and 'any' to modify 'employee,' which in turn is defined to include 'any' employed individual, leaves no doubt as to the Congressional intention to include all employees within the scope of the Act unless specifically excluded. And 'each' and 'any' employee obviously and necessarily includes one compensated by a unit of time, by the piece or by any other measurement.

323 U.S. at 362-63. "A broader or more comprehensive coverage of employees within the stated categories would be difficult to frame." *Id.* at 362.

Rosenwasser was therefore not permitted to pay *only some* of his employees the minimum wage; so, too, the Board here was not permitted to issue a final decision on *only some* of the claims challenged by the petitioner, SAS. "[T]he . . . Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner" means

that every claim challenged by the petitioner gets adjudicated. No exceptions.

Neither the Federal Circuit—not in *Synopsys*, and not in this case—nor the Director's brief in opposition, takes issue with this meaning of § 318(a), nor do they deny that this is the natural consequence of the statute's use of "shall" and "any." Instead, both have justified the Board's partial-decision practice by reference to the meaning of "claim[s] challenged by the petitioner." According to the Court of Appeals and the Director, this term takes on a different meaning from the virtually identical terms as used in §§ 312(a)(3), 314(a) and 318(a). *Synopsys*, 814 F.3d at 1315; Pet. App. 21a; BIO 15 (arguing that "the scope of the Board's required written decision is bounded by the scope of review that the PTO has elected to institute").

Such fine parsing of statutory language is untenable. The most glaring problem with this argument is that the "scope" of inter partes review, and the "scope" of the final written decision, is already defined by the statute. Section 311(b) explicitly defines the "SCOPE" of inter partes review by reference to the claims that the "petitioner . . . may request to cancel as unpatentable." And the wording of the Act's several other relevant provisions likewise confirms that the scope of the Board's required written decision is bounded not by Patent Office fiat, but by Congressional command. Section 312(a)(3) requires a petition—which is, of course, filed by a "petitioner" and only a "petitioner"—to "identif[y] in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that

supports the grounds for the challenge to each claim." Section 314(a) then empowers the Director to institute inter partes review only if "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." And § 318(a) then requires the Board to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added" by amendment under § 316(d).

These verbal constructs—"each claim challenged," "the challenge to each claim," "the claims challenged in the petition," and "any patent claim challenged by the petitioner"—plainly refer to the same thing: the patent claims that are challenged in the petition, by the petitioner. This is just as it is in ordinary civil litigation—the plaintiff is "the master of the complaint," *see Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc.*, 535 U.S. 826, 831 (2002), and, even where a plaintiff's claims for relief are dismissed at the outset of litigation (*e.g.*, under FED. R. CIV. P. 12(b)), those dismissals merge into the final judgment and can be appealed. *See, e.g., Cohen v. Beneficial Indus. Loan Corp.*, 337 U.S. 541, 546 (1949) ("fully consummated decisions" that are interlocutory "are but steps toward the final judgment in which they will merge"). There is no good reason to conclude that inter partes review was meant to follow a different path.

The fact that these parallel provisions appear in the same Act lends even greater weight to the conclusion that they should be interpreted identically in each section: An Act of Congress "should not be read as a series of unrelated and isolated provisions,"

which in turn compels "the 'normal rule of statutory construction' that 'identical words used in different parts of the same act are intended to have the same meaning.'" *Gustafson v. Alloyd Co.*, 513 U.S. 561, 570 (1995) (quoting *Dep't of Revenue of Ore. v. ACF Indus., Inc.*, 510 U.S. 332, 342 (1994)).

By using "claims challenged in the petition" in § 314(a), but "claim[s] challenged by the petitioner" in § 318(a), Congress did not hide a secret clue in the statute that these provisions should (or should be allowed to) have a meaningfully different scope. If anything should be drawn from this slight difference in wording, it is that "the petitioner" is the one who, at all times, controls the scope of an inter partes review. After all, who "challenges claims in a petition"? Not the Director, and not the Board—the petitioner.

Here, claims 2 and 11-16 of the ComplementSoft patent were "challenged by the petitioner," SAS, in the only vehicle available for mounting such a challenge (the petition); SAS has never abandoned its challenges to those claims; yet SAS has never received a final written decision as to those claims as mandated by the statute. Instead, the Federal Circuit rewrote the straightforward language of § 318(a) to say that "the Board must issue a final written decision with respect to only those claims on which inter partes review has been instituted and which the Board has allowed the petitioner to pursue after the institution stage." Had Congress meant that, it could have said so. But it did not. There is no justification for the addition of such judicial embroidery upon the congressional language. *See, e.g., Bates v. United States*, 522 U.S. 23, 29 (1997)

("[W]e ordinarily resist reading words or elements into a statute that do not appear on its face.").

Likewise, the Federal Circuit's suggestion that the conditional phrase in § 318(a)—"if an inter partes review is instituted"—"strongly suggests that the 'challenged' claims referenced are the claims for which inter partes review was instituted, not every claim challenged in the petition," *Synopsys*, 814 F.3d at 1315, is at best a circular argument. Nothing in § 314(a), or, indeed, anywhere in the AIA, allows or anticipates a partial-institution practice, and so the Federal Circuit's logic assumes its conclusion that partial inter partes reviews, and partial decisions, are appropriate. The statute says otherwise.

Indeed, § 318(a)'s additional requirement that the final written decision address the patentability of "any new claim added," post-institution, "under section 316(d)," only confirms Congress's intent that the scope of the final written decision be as broad and inclusive as possible. It would be absurd to read "any claim challenged by the petitioner" and "any new claim added"—terms that appear, conjunctively, in the very same sentence—as allowing the Board the discretion to decide one challenged (or added) claim but not another. The context makes plain that "any," as used in § 318(a), means "all." After all, statutes "cannot be construed in a vacuum. It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme." *Roberts v. Sea-Land Services, Inc.*, 566 U.S. 93, 101 (2012).

Section 316(d) further underscores the point. Section 316(d)(1)(A) allows a patent owner in "an inter partes review instituted under this chapter," to "[c]ancel any challenged patent claim"—without any reference to whether the patent claim was challenged "in the petition" or "by the petitioner." This is the only indication in the entire chapter dealing with inter partes review that a claim might be challenged "in the petition" at the outset, but not challenged "by the petitioner" at the time of the final written decision. Obviously, a claim that is voluntarily cancelled post-institution ceases to exist, and a final written decision would not need to adjudicate such a nullity; accordingly, § 318(a)'s reference to "any patent claim challenged by the petitioner" makes sense as referring to all of the claims challenged in the petition under § 314(a), less any claim that has been cancelled by the patent owner, post-petition, under § 316(d)(1)(A). Beyond that single possibility, § 318(a) is strictly additive—the final written decision must adjudicate *all* of the claims "challenged by the petitioner *and* any new claim added under section 316(d)." (Emphasis added.)

This expression of an additive requirement to the mandatory final written decision in § 318(a), and the wholesale absence of any statutory language even plausibly suggesting that the scope of the final decision can be *narrower* than the scope of the petition—other than in the case of a voluntarily cancelled claim under § 316(d)(1)(A)—is a further reason to read the statute just as it was written.

C. The Federal Circuit's Interpretation Also Runs Afoul Of The Act's Overall Language, Structure, And Manifest Purpose

Judge Newman's trio of dissenting opinions—in *Synopsys*, in the panel decision in this case, and from the denial of rehearing en banc in this case—sets forth, in detail, why the panel's interpretation of § 318(a) will do harm to the efficient operation of the post-patent-issuance challenge regime that was established by the America Invents Act.

First, as discussed at pp. 17-27 above, the language of the Act as a whole demonstrates that Congress designed a regime of post-patenting review that, if inter partes review is initiated, would finally resolve challenges to all claims that the petitioner has challenged.

Second, the Board's partial-decision process eliminates one of the core purposes of the act—the ability to have patentability determinations as to a particular patent adjudicated efficiently in a single proceeding, either before the Board or in court. *Synopsys*, 814 F.3d at 1327-31 (Newman, J., dissenting); Pet. App. 30a-38a; Pet. App. 97a-100a; 35 U.S.C. § 315(e) (estoppel provision of America Invents Act). The current Interim Director of the Patent Office (the named respondent here) has referred to this as "the main argument for authorizing post-grant review"—to establish certainty with regard to patent validity, in an economical fashion, prior to expensive district-court litigation. Joe Matal, *A Guide to the Legislative*

History of the America Invents Act: Part II of II, 21 Fed. Cir. B.J. 539, 600 (2012).

By adopting the partial-decision regime, however, the Patent Office has made inter partes review much more inefficient, uneconomical, and uncertain than the process envisioned by Congress. This case is Exhibit A: The parties to this inter partes review have already invested almost a half-dozen years in litigating the validity of only some of the claims of the ComplementSoft patent: ComplementSoft's district-court patent-infringement complaint was filed in 2012; this inter partes review began in early 2013; and the district court stayed the court litigation in view of the inter partes review. So, unless this Court reverses, the result of five years of agency litigation will be patent-validity rulings on only nine out of 16 of the patent claims that are challenged by SAS. Absent reversal, the parties would have to then engage the District Court in the Northern District of Illinois to rule on SAS's validity challenges to the other seven claims, because estoppel under the Act only attaches to "a final written decision," 35 U.S.C. § 315(e)(2); the Board's extensively reasoned institution decision, Pet. App. 103a-128a—even its extended disquisitions as to why it was not instituting review on claims 2 and 11-16, Pet. App. 115a-16a—has no estoppel effect whatsoever.[2]

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[2] SAS is confident in its ability to invalidate ComplementSoft's claims 2 and 11-16 in the pending district-court infringement action. For much the same reasons, it believes that it will be successful before the Board, or on review to the Federal Circuit of a full final written decision under § 319, in demonstrating that those claims are unpatentable—if the Board allowed SAS to present its full case and then adjudicated all of the challenged claims in a final written decision under § 318(a). But even if

Even the Government suffers from the Board's piecemeal approach. Indeed, the United States Department of Justice agreed with SAS, when it was acting as a petitioner in inter partes review before the Patent Trial and Appeal Board. In a recent case, the Justice Department correctly challenged the Board's partial-institution, partial-decision practice: "[B]y picking and choosing some but not all of the challenged claims in its Decision, the Board has undermined the Congressional efficiency goal and increased the workload of both parties who are now forced to litigate validity between two forums—this board and the Court of Federal Claims." Petitioner's Request for Rehearing Pursuant to 37 C.F.R. § 42.71(d), U.S. Patent No. 7,323,980, *Dep't of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Nov. 29, 2016). The Board denied the Department of Justice's rehearing request on January 19, 2017, citing, *inter alia*, the Federal Circuit's *Synopsys* decision. *See* Decision Denying Petitioner's Request for Rehearing, *Dep't of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Jan. 19, 2017). While the Government has since abjured its inter partes review-litigating siblings in the Civil Division, *see* BIO 19 n.4, the point made by the Department remains correct and is worth repeating: "the Board has undermined the Congressional efficiency goal

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(continued...)

SAS were to lose the inter partes review on the merits of these claims, the estoppel effect of such a decision would then cause its defense of the court action to be more focused, streamlined, and inexpensive.

and increased the workload of both parties who are now forced to litigate validity between two forums."

Third, and for much the same reasons, the partial-decision regime contradicts the legislative history of the Act. That history reflects the Act's intended purpose of allowing post-issuance review to serve as a substitute for, not a supplement to, invalidity litigation. In addressing the estoppel provisions of the Act, the House Judiciary Committee's report emphasized that allowing repeated attacks on patents could be used "as tools for harassment or a means to prevent market entry through repeated litigation and administrative attacks on the validity of a patent," and so the Act precludes "improperly mounting multiple challenges to a patent or initiating challenges after filing a civil action challenging the validity [of] a claim in the patent." H.R. Rep. at 48, 2011 U.S.C.C.A.N. at 78. *See generally* 35 U.S.C. § 315(a).

The legislative statements of pivotal individuals confirm this understanding of the Act. Senator Grassley, "a central figure" in the enactment of the America Invents Act (*Synopsys*, 814 F.3d at 1327 (Newman, J., dissenting)), said that the purpose of the Act's estoppel provision, 35 U.S.C. § 315, was to "completely substitute for" adjudication of the same issues in litigation. 157 Cong. Rec. S1360-94 (daily ed. Mar. 8, 2011). This understanding was echoed by then-USPTO-Director Kappos: "Those estoppel provisions mean that your patent is largely unchallengeable again by the same party." *America Invents Act: Hearing on H.R. 1249 Before the House Comm. on the Judiciary*, 112th Cong. 52-53 (2011).

Perhaps most notably, however, the legislative record contains no suggestion whatsoever that final written decisions of the Patent Trial and Appeal Board should extend to fewer than all of the claims challenged by the petitioner. *Synopsys*, 814 F.3d at 1333-36 (Newman, J., dissenting) ("canvass[ing] the entire record" of the legislative history). "Congress' silence in this regard can be likened to the dog that did not bark." *Chisom v. Roemer*, 501 U.S. 380, 396 n.23 (1991) (citing Arthur Conan Doyle, Silver Blaze, in *The Complete Sherlock Holmes* 335 (1927)).

* * * * *

In sum, the plain language of § 318(a) is unmistakable—it compels the conclusion that the Board is obligated to issue a final written decision as to all 16 of the patent claims that SAS challenged in this inter partes review. The policies that inter partes review were meant to serve, and the legislative history of the AIA, all confirm that this is how the statute is to be read.

II. *CHEVRON* CANNOT SAVE THE PATENT OFFICE'S PARTIAL-DECISION PRACTICE

The panel majority in *Synopsys* believed that the statute was "quite clear" and "strongly implies" allowing the PTO to "institute inter partes review on a claim-by-claim basis," 814 F.3d at 1315-16, and therefore to issue final written decisions only as to the claims on which review was instituted. However, the *Synopsys* majority added that, "if there were any doubt about the Board's authority and the statute were deemed ambiguous, the PTO has promulgated a regulation allowing the Board to institute as to some or all of the claims." *Id.* at 1316 (citing 37 C.F.R.

§ 42.108). According to the *Synopsys* majority, "this regulation is a reasonable interpretation of the statutory provision governing the institution of inter partes review" under step two of *Chevron*, 467 U.S. at 842-43. *Id.* The panel in this case embraced both holdings from *Synopsys*—that the statute is unambiguous under *Chevron* step one, and that the Board's partial-*institution* rule is "based on a permissible construction of the statute" under step two. Pet. App. 20a-21a.

Chevron cannot save the Board's partial-decision regime.

1. Because the statute is clear, it should be enforced at *Chevron* step one without any further inquiry. *See National Credit Union Admin. v. First Nat'l Bank & Trust Co.*, 522 U.S. 479, 499-503 (1998). As detailed above, the statutory language is, indeed, clear—just not in the way the *Synopsys* majority thought. To start, the court focused on the wrong provision in its *Chevron* analysis. By its terms, *Chevron* requires courts to ask "whether Congress has directly spoken to the precise question at issue." 467 U.S. at 842. The "precise question" here is the required content of a "final written decision" under § 318(a), a subsection which, we have already shown, speaks clearly and definitively to the scope of such decisions. Unlike in *Cuozzo*, 136 S. Ct. at 2142, where the statute said nothing about the claim-construction standard to be used, here there is no "gap" for regulation to fill. Yet the *Synopsys* majority opined only that a regulation governing *institution* was "a reasonable interpretation of the statutory provision governing the institution of inter partes review"—that is, § 314(a). 814 F.3d at 1316. But a regulation

that governs *institution determinations* does not speak to the completeness of *final written decisions*—which is "the precise question at issue."

The distinction between institution and decision is critical, both because Congress did not delegate to the Director any authority to prescribe regulations altering its § 318(a) mandate with respect to a final written decision, and because there is no regulation, anywhere in Title 37 of the *Code of Federal Regulations*, that purports to interpret § 318(a). Section 316(a) requires the Director to "prescribe regulations," *inter alia*, "setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a)," § 316(a)(2), and "requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter," except that the time periods can be adjusted in cases of good cause or joinder. § 316(a)(11). Not a single one of the 13 paragraphs in § 316(a) authorizes the Director to alter or define the scope of the required "final written decision"—the statute already defined that—and the only paragraph that does speak to the Board's final decision, § 316(a)(11), allows only for a timeliness requirement, not a scope requirement. *See Adams Fruit Co. v. Barrett*, 494 U.S. 638, 649-50 (1990) (finding no congressional delegation of agency authority regarding the act's enforcement provisions, even though there was a delegation with respect to standards implementing the act's motor-vehicle provisions).

And, consistent with the statute, the Director did not promulgate any regulation redefining the scope of

the required final written decision under § 318(a), so there is no interpretation of § 318(a) for any court to defer to in the first place. *See generally* 37 C.F.R. Part 42, Subpart A (setting forth rules of "Trial Practice and Procedure" for the Board).

But even if the proper focus were on the § 314(a) institution rather than the § 318(a) final written decision, the paragraph allowing the Director to define "the standards for the showing of sufficient grounds to institute a review" also does not suggest that the Director has the discretion to alter the scope of the inter partes review required by the statute. Again, the statutory language already defines the "SCOPE" of inter partes review by reference to what "[a] petitioner in an inter partes review . . . request[s]," § 311(b). And, where the statute imposes a threshold determination for commencing an inter partes review—it requires a finding that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." But this is merely the "THRESHOLD" that must be found, § 314(a), before the Director is permitted "to institute an inter partes review under this chapter pursuant to a petition filed under section 311." § 314(b).

This does not make it "quite clear," nor does it "strongly impl[y]," that review may be had on fewer than all of the challenged claims, as the Federal Circuit thought (*Synopsys*, 814 F.3d at 1315-16); rather, it is simply a definition of the "threshold" showing required before instituting the inter partes review. As § 314(b) demonstrates, the institution of inter partes review is "under this chapter" and "pursuant to [the] petition." That means that review

should thereafter take place, and yield a final written decision, on all challenged claims.

2. Nonetheless, regardless of whether the Director's regulation purporting to interpret § 314(a) is even authorized, let alone reasonable, it would remain the case that any claims on which inter partes review was not "instituted" under § 314(a) would still be claims "challenged by the petitioner" under § 318(a), and thus are still subject to that latter section's mandate ("shall issue") that the Board's final written decision must address all, not just some, of those challenged claims. "Congress knows to speak in plain terms when it wishes to circumscribe, and in capacious terms when it wishes to enlarge, agency discretion." *City of Arlington, Tex. v. FCC*, 133 S. Ct. 1863, 1868 (2013). In § 318(a), Congress spoke plainly, emphatically, and mandatorily.

In this respect, when the Patent and Trademark Office first proposed its rule allowing for partial institution of inter partes reviews, the agency was met with numerous objections. In particular, the chief patent counsel of IBM objected that "the statute does not appear to leave discretion to provide a final written decision not addressing any claim that was initially challenged by the petitioner on the basis that the Office determined it to be 'not part of the trial.'" *Comments on Changes to Implement Inter Partes Review Proceedings*, IBM 5 at 3 (Apr. 6, 2012) (available at http://www.uspto.gov/sites/default/files/aia_implementation/comment-ibm5.pdf, and quoted in *Synopsys*, 814 F.3d at 1329 (Newman, J., dissenting)). The Office's response to this objection invoked "workload" and "statutory time constraints."

80 Fed. Reg. 50,720, 50,739 (Aug. 20, 2015) (quoted in *Synopsys*, 814 F.3d at 1330 (Newman, J., dissenting)).

This response was not an adequate reason for the Office to adopt a procedure contrary to the clear command of the statute. Of course, "an agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate." *Utility Air Regulatory Grp. v. Environmental Protection Agency*, 134 S. Ct. 2427, 2446 (2014). And, by invoking only its own workload and deadlines, the agency failed to heed Congress' conjunctive command in § 316(b) that, "[i]n prescribing regulations under this section, the Director *shall consider* the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, *and* the ability of the Office to timely complete proceedings instituted under this chapter." (Emphasis added.)

But beyond that, the Patent and Trademark Office has not, by this mechanism, actually achieved the alleviation of its own "workload" that the statute, by its actual terms, would allow: The statute speaks of institution *determinations*, not institution "decisions," § 314(a)-(d), and the whole point of the Act's provision that such determinations are not ordinarily reviewable, *see* 35 U.S.C. § 314(d), is that they need not be reasoned in the way that final and reviewable administrative adjudications normally must be. *See* 5 U.S.C. §§ 704, 706; *Cuozzo*, 136 S. Ct. at 2139-42. Accordingly, the Act envisions that the institution determination will be no more reasoned than a simple thumbs-up "notice" to the parties, and eventually in the *Federal Register*, that an inter partes review has been instituted and will commence

on a certain date. *See* 35 U.S.C. § 314(c) ("NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence."). Section 314 requires nothing more.

Instead, however, the Board—as the delegate of the Director of the Patent and Trademark Office—has taken it upon itself to issue extended written decisions, *at the time of institution*, explaining the reasons why review was instituted or not. That is the Board's practice, and it was followed in this case. Pet. App. 103a-28a (23-page-long "Institution of *Inter Partes* Review" decision). As a result, the Board is effectively making non-final written decisions on non-instituted patent claims, but depriving those decisions of their intended estoppel effect under § 315, as well as insulating them from judicial review under § 319.

The Director and the Board could easily honor the statute, with no negative effect on the Director's (or the Board's) workload, by foregoing those extensive, unreviewable, and non-estopping preliminary opinions, following the procedures established by Congress, and issuing full final written decisions, on all challenged claims—complete decisions that can then be reviewed by the Federal Circuit, § 319, and given estoppel effect in district-court litigation, § 315(e)(2). Or, if the Board believes that it would be too burdensome for it to decide a particular review on all claims challenged in a given petition within the one-to-one-and-a-half year timeframe prescribed by statute, *see* § 316(a)(11), then it should exercise its

discretion to deny institution entirely, and remit validity challenges to district-court litigation so that the issues can be decided in a single forum. The statute by its terms provides the Patent Office with ample ability to manage its workload without resorting to partial, piecemeal adjudications.

In short, the statute's institution provision does not render the final-written-decision provision ambiguous under *Chevron* step one.

3. The Director's position would also fail *Chevron* step two if the inquiry proceeded that far. "[I]f the statute is silent or ambiguous with respect to the specific issue, the question for the court is whether the agency's answer is based on a permissible construction of the statute." 467 U.S. at 843. Here, for the reasons detailed in Judge Newman's triad of dissenting opinions, the Director's practice of issuing final written decisions on fewer than all of the challenged claims throws a wrench into the works of a statute whose provisions are "designed to act in harmony, like a well-oiled engine." Pet. App. 26a.

In fact, the Director's use of authority to prescribe regulations under § 316(a)—which allows the Director to "se[t] forth the standards for the showing of sufficient grounds to institute a review under section 314(a)," but not to limit the scope of such "review"—is so sweeping that, if it were accepted, it would raise serious separation-of-powers concerns. Congress, in enacting the America Invents Act, established a comprehensive, detailed regime for the post-issuance review of patents. The Director's adoption of what amounts to a fundamentally different procedural regime for the review of issued

patents, and the Federal Circuit's willingness to read the Act's various references to "claims challenged" not *in pari materia*, but in a fluid fashion, seeks to arrogate the legislature's power to the Executive and Judicial branches.

Whatever the wisdom of *Chevron*, its step two cannot be allowed such free rein as to allow the agency tasked with implementing the statute—here, the Patent and Trademark Office—to fundamentally rewrite the law's procedures to serve its interests in convenience. The *Chevron* decision has been criticized recently as "permit[ting] executive bureaucracies to swallow huge amounts of core judicial and legislative power and concentrate federal power in a way that seems more than a little difficult to square with the Constitution of the framers' design." *Gutierrez-Brizuela v. Lynch*, 834 F.3d 1142, 1149 (10th Cir. 2016) (Gorsuch, J., concurring). Indeed, in *Cuozzo* itself, interpreting another (though related) provision of this same Act, Justice Thomas outlined and repeated his concerns over "*Chevron*'s fiction that ambiguity in a statutory term is best construed as an implicit delegation of power to an administrative agency to determine the bounds of the law." 136 S. Ct. at 2148 (Thomas, J., concurring).

Here, because of that same kind of agency overreach, the Patent and Trademark Office has adopted—apparently for its own convenience, and based upon a most dubious claim of statutory ambiguity—a set of procedures and decisional requirements which are inconsistent with the AIA. "Those who ratified the Constitution knew that legal texts would often contain ambiguities," *Perez v. Mortgage Bankers Ass'n*, 135 S. Ct. 1199, 1217 (2015)

(Thomas, J., concurring), and, on some level, all human language is ambiguous. Viewed in that light, the craftsmanship of agency lawyers can always make colorable arguments that even the most straightforward statutory text is ambiguous enough to merit revision by regulation. This is the mischief that Justices Thomas and Gorsuch have recognized in their writings, and it was present in this case and in *Synopsys*.

Thus, there are strong, even powerful arguments for the Court to retreat from *Chevron*'s approach of agency deference, and instead favor the "impressive body of law" that Judge Friendly identified, pre-*Chevron*, "sanctioning free substitution of judicial for administrative judgment when the question involves the meaning of a statutory term." *Pittston Stevedoring*, 544 F.2d at 49. Such an approach would avoid all of the problems—constitutional and practical—that inhere in letting an Executive agency restructure a Congressionally crafted system such as the inter partes review procedures at stake here. *See* 35 U.S.C. §§ 311-319; *see also id.* §§ 321-329 (post-grant review); 125 Stat. 284, 329 § 18(a)(1) (covered business method patents); n.1, above.

Those constitutional concerns can be avoided here, however, either by holding that the Board's practice of issuing partial final decisions fails *Chevron* step one, or by simply enforcing step two of *Chevron* by its terms and ruling that, even if there were some modicum of ambiguity in the statute, here, "the agency's answer is [not] based on a permissible construction of the statute." 467 U.S. at 843. In short, *Chevron* can survive, and remain consistent with "the

Constitution of the framers' design," if its steps are enforced with vigor.

That vigor is needed here: It was neither correct nor "permissible" for the Patent Office to use its powers of regulation to make fundamental structural change to the essential Congressional system of inter partes review. The congressional structure is amply set forth in the statute: an institution determination that grants or denies the petition, 35 U.S.C. § 314, followed, if the review is granted, by a final written decision addressing "the patentability of any patent claim challenged by the petitioner." *Id.* § 318(a). That way, the final written decision can have the intended estoppel effect as a substitute for court litigation, *id.* § 315(e), and can be subject to judicial review, *id.* § 319, just as the AIA was designed to accomplish.

III. READING SECTION 318(a) AS IT WAS WRITTEN SERVES EVERY DISCERNIBLE GOAL OF THE AMERICA INVENTS ACT, AND WILL YIELD A MORE EFFECTIVE SYSTEM OF POST-ISSUANCE PATENT REVIEW

The America Invents Act's chapter on inter partes review was plainly designed to serve several important goals. Three of them are manifest. *First*, it "g[ave] the Patent Office significant power to revisit and revise earlier patent grants." *Cuozzo*, 136 S. Ct. at 2139-40. *Second*, it "responds to concerns that the time and cost and uncertainty of resolving patent validity challenges are a disincentive to development and commercialization of new science and technology." *Synopsys*, 814 F.3d at 1326-27 (Newman, J., dissenting) (quoting Introduction of Patent Reform

Act of 2006, 152 Cong. Rec. S8830 (Aug. 3, 2006) (statement of Sen. Leahy)). And *third*, it carries forth the first two goals by crafting a system of post-patent-grant review (in the form of inter partes review, post-grant review, and covered-business-method-patent review, *see* n.1, above) that "significantly reduce[s] the ability to use post-grant procedures for abusive serial challenges to patents [and] provide[s] faster, less costly, alternatives to civil litigation." 157 Cong. Rec. S952 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley) (quoted in *Synopsys*, 814 F.3d at 1327 (Newman, J., dissenting)); *see generally* 35 U.S.C. § 315(e)(2) (estoppel upon district-court proceedings); H.R. Rep. at 48, 2011 U.S.C.C.A.N. at 78 (explaining the importance of estoppel to this goal).

The plain, crystalline language of § 318(a), which requires the Board's final decision to reach every claim challenged by the petitioner, serves all of these goals—and reflects the statute that Congress actually authored. Certainly, the statute as written does a far better job of advancing the statute's goals than does the Patent Office's modified version. It allows for the most common challenges to patent validity—those "under section 102 or 103 and . . . on the basis of prior art consisting of patents or printed publications" (35 U.S.C. § 311(b))—to be efficiently adjudicated by an expert board of patent-trained administrative law judges, *see id.* § 6(a) ("The administrative patent judges shall be persons of competent legal knowledge and scientific ability . . . ."). If those expert judges follow the statute and issue a final decision as to all of the challenged claims, that decision can then be appealed to the Court of Appeals for the Federal

Circuit. *Id.* § 319. And, whether or not appealed, the Board's decision as to all of those claims becomes final and estopping upon later district-court infringement litigation. *Id.* § 315(e)(2).

Inter partes review was designed so that these issues would be decided, completely, by a single tribunal—either the Board or, if review is not instituted by the Board, by the district courts. Instead, under the regime prescribed by Patent Office regulation, parties must fight validity on multiple fronts when petitions are only partially decided. The key to restoring inter partes review to its proper scope is located in § 318(a), and in reading the statute according to its plain, straightforward words.

When Congress said that the Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner," that is what Congress meant. It did not mean that the Board should decide only some of the claims challenged by the petitioner. The statute should be read as it was written.

CONCLUSION

The judgment of the Federal Circuit should be reversed, and the case remanded with instructions to order the Patent Trial and Appeal Board to issue a final written decision with respect to the patentability of claims 2 and 11-16 of the '936 patent.

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July 20, 2017

RECORD AND BRIEF.

SUPREME COURT U.S.
SEP - 5 2017

No. 16-969

IN THE

Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

JOSEPH MATAL, Interim Director,
United States Patent and Trademark Office, and
COMPLEMENTSOFT, LLC,

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF FOR RESPONDENT COMPLEMENTSOFT, LLC

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QUESTION PRESENTED

Does the America Invents Act require patent owners and the Patent Trial and Appeal Board to spend resources conducting an inter partes review on patent claims in which the petitioner failed to show even a reasonable likelihood of success in its petition?

RULE 29.6 STATEMENT

Respondent ComplementSoft, LLC has no parent company; no publicly traded corporation owns 10% or more of its stock.

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STATEMENT OF THE CASE

1. The Inter Partes Review Process: The inter partes review ("IPR") process begins with a petition seeking review. The petition is not like a civil complaint, which need only state a plausible cause of action. Under the America Invents Act, the petitioner is expected to come to the Patent Trial and Appeal Board ("Board") with its evidence and arguments fully developed. The statute requires that the petition "identif[y], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." Leahy-Smith America Invents Act ("AIA"), 35 U.S.C. § 312(a)(3) (2012). This includes providing the Board with any expert declarations offered to support the petition. *Id.* § 312(a)(3)(B).

In response to the petition and any preliminary response from the patent owner, the Board is required to determine whether "there is a reasonable likelihood that the petitioner would prevail." *Id.* §§ 313, 314(a). If there is a reasonable likelihood "with respect to at least 1 of the claims challenged in the petition," the Board is authorized (but not required) to institute the IPR. *Id.* § 314(a). The Board's determination "whether to institute" an IPR "shall be final and non-appealable." *Id.* § 314(d).

Because the petitioner must include its evidence and arguments in its petition, failure to show a reasonable likelihood of success on a particular claim at the petition stage forecloses any hope of prevailing in a final written decision after discovery and trial. In fact, a petitioner's case can only get worse after institution because the patent owner has the opportunity, for example, to depose the petitioner's expert and

uncover bias or shortcomings in his or her opinions. As a result, proceeding with discovery, further expert costs, a trial, and a final written decision on claims in which the petitioner has no reasonable likelihood of success is necessarily a futile exercise for the parties and the Board.

Under Section 318, "[i]f an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner[.]" *Id.* § 318. The statute allows a party "dissatisfied with the final written decision" to appeal it. *Id.* § 319.

If an IPR is instituted against a claim, and the petitioner fails to invalidate it at trial, resulting in a final written decision against the petitioner on that claim, estoppel prevents future invalidity assertions by the petitioner in Patent Office proceedings, civil actions, and International Trade Commission actions based on any ground that the petitioner "raised or reasonably could have raised during [the] inter partes review." *Id.* § 315(e). The only grounds on which an IPR may be instituted, however, are invalidity under Section 102 (novelty) or 103 (obviousness), and they may only be based on "prior art consisting of patents or printed publications." *Id.* § 311(b). Thus, an accused infringer who loses an IPR can challenge the validity of the same claims in litigation based on other frequently asserted grounds, including Section 101 (patentable subject matter) and Section 112 (enablement and written description), and may also challenge the same claims again under Section 102 or 103 using different forms of prior art.

Further, even the estoppel under Sections 102 and 103 for arguments based on printed publications and

patents is limited. Under Federal Circuit law, no estoppel applies to future use of prior art that was submitted in an IPR petition but that the Board did not consider because the Board deemed the art "redundant." *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, 817 F.3d 1293, 1300 (Fed. Cir. 2016), *cert. denied*, 137 S. Ct. 374 (2016). Petitioners are also not estopped, as the law has developed thus far, from bringing Section 102 or 103 arguments using patents and printed publications that a court determines a petitioner could not "reasonably" have raised in an IPR because it was too hard to find them. *See, e.g., Clearlamp, LLC v. LKQ Corp.*, No. 12 C 2533, 2016 WL 4734389, at *8 (N.D. Ill. Mar. 18, 2016) (in reliance on floor statements by Senator Kyl, holding that only prior art expected to be found by a skilled researcher applying a "diligent," as opposed to "scorched-earth," search is subject to estoppel). Thus, far from providing the patent owner much "finality" as to the validity of a claim, an unsuccessful IPR forecloses only a fraction of the commonly asserted invalidity defenses.

Accused infringers have engaged in various tactics in an effort to pursue questionable IPRs. *See* Albert Liou, *A Single Bite at the Apple: The Board's Discretion to Deny Institution Under § 314(a)*, PTAB Litigation Blog (Apr. 28, 2017), http://www.ptablitigationblog.com/a-single-bite-at-the-apple-the-boards-discretion-to-deny-institution-under-%C2%A7-314a/ (describing improper attempt by petitioner to use decision in first IPR to serve as a guide for a second IPR using additional prior art); David Maiorana, *Be Careful Basing Your IPR On Previously Considered Prior Art*, PTAB Litigation Blog (June 22, 2017), http://www.ptablitigationblog.com/careful-basing-ipr-previously-considered-prior-art/ (describing a petitioner that based its rejected IPR petition on prior art that was already considered

in original prosecution, which is technically allowed, because "[p]erhaps the petitioner here had no better prior art on which to rely" yet elected to pursue the IPR anyway); PTAB Litigation Blog, *Strategic Considerations for Duplicative Filings Before the PTAB* (Mar. 28, 2016), http://www.ptablitigationblog.com/strategic-considerations-for-duplicative-filings-before-the-ptab-presentation-slides/ ("Litigants have long utilized [joinder of] duplicative filing of IPR or [covered business method] petitions to obtain the benefit of arguments made by earlier petitioners and to improve leverage for settlements with patent owners."); PTAB Litigation Blog, *Joinder Presentation Slides*, 3 (Mar. 28, 2016), http://www.ptablitigation blog.com/strategic-considerations-for-duplicative-filings-before-the-ptab-presentation-slides/ (describing use of joinder of multiple Board proceedings to "evade the one year bar" and "correct mistakes"). Some of these tactics failed, but nonetheless required costly responses from patent owners and occupied the Board's limited time.

A little over half the time (around 59%), district courts stay infringement suits during the pendency of an IPR. *See* Intellectual Property Owner's Ass'n Br. at 8 (citing LegalMetric Nationwide Report, *Stay Pending Inter Partes Review in Patent Cases*, at 2 (Aug. 2012-Mar. 2017)). According to one practitioner, this perhaps is because district court judges "liked the option of offloading patent validity challenges to the PTAB." Matthew Johnson, *Video – PTAB Popularity and the Reasons For It* (Mar. 2, 2017), 2:01-2:11, http://www.ptablitigationblog.com/video-ptab-popularity-and-reasons-for-it/. A stay results in an "advantage" for accused infringers in part because it "delays recovery to the patent owner" and "increases the petitioner's settlement leverage." *Id.* at 2:12-2:25.

Under the Board's partial institution practice, if an IPR is instituted as to only some of the claims sought by the accused infringer and there appears to be little hope of the patent owner succeeding before the Board, a patent owner is free to exclude the instituted claims from the litigation or cancel them outright so that it may proceed in court without further delay. Under SAS's interpretation of the statute, however, that would no longer be possible. Instead, accused infringers could force a lengthy delay for settlement leverage purposes if there is just one claim with a reasonable chance of invalidation. And because the petitioner has no real chance of invalidating claims in district court on grounds that would not have been instituted under the Board's partial institution practice (especially given the more petitioner-favorable claim construction standard and burden of proof before the Board), the potential estoppel effects from pursuing those arguments in the IPR anyway would not be much of a deterrent to the petitioner.

There is no limitation on who can file IPR petitions, and they are not being pursued only by accused infringers. A hedge fund, for example, has challenged pharmaceutical patents of companies whose stock it has shorted—a context in which estoppel is useless to the patent owner. *See* Brandon Pierson, *Fund Manager Wins Challenge to Celgene Drug Safety Patents*, Reuters Legal (Oct. 28, 2016); *see also* Marc Cavan, Matthew Rizzolo, & Matthew McDonnel, *"Reverse Patent Trolls": Patent Law's Newest Strategy Unfolds*, Bloomburg BNA Patent, Trademark & Copyright Journal, 90 PTCJ 2212 (May 29, 2015) (describing various other emerging uses of IPRs for financial gain by entities other than accused infringers); *Allergan, Inc. v. Ferrum Ferro Capital, LLC*, No. LA CV15-00992, 2015 WL 12670417, at *7 (C.D. Cal. Dec. 28,

2015) (describing a party alleged by the plaintiff to have filed an IPR solely "to extract a monetary settlement" from the patent owner and finding question to be a matter of state law or potentially implicating Board sanctions, but not a substantial federal patent question).

2. The Proceedings Below. ComplementSoft is the current and original owner of U.S. Patent Number 7,110,936, titled "System and Method for Generating and Maintaining Software Code." J.A. 80. Generally speaking, the '936 Patent is directed to a software tool used by software programmers to visualize and edit source code written in a data manipulation language. *Id.*

Before the '936 Patent issued, ComplementSoft and SAS entered into a non-disclosure agreement, under which SAS reviewed ComplementSoft's "ASAP" product.[1] *See* Joint Report at 7-8, *ComplementSoft, LLC v. SAS Inst. Inc.*, No. 1:12-cv-07232 (N.D. Ill. Jan. 10, 2017), ECF 81. After SAS's review of the product, SAS entered into an agreement with ComplementSoft to resell the product, but before the agreement was implemented, SAS terminated it. *Id.* At various times in the following years, ComplementSoft attempted to renew its relationship with SAS through discussions with various SAS employees, and also informed SAS of its pending, and eventually allowed, patent claims. *Id.*

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[1] SAS does not necessarily agree with ComplementSoft's version of these facts and has denied any infringement or willful infringement. While the cited document is a joint report, the cited passage comes from ComplementSoft's individual statement, and SAS submitted its own contrary statement in the joint report. None of these issues have been litigated in the district court case.

In September 2012, ComplementSoft filed its patent infringement suit against SAS. *See* Complaint, *ComplementSoft, LLC v. SAS Inst. Inc.*, No. 1:12-cv-07232 (N.D. Ill. Sept. 14, 2012), ECF 1. Following the exchange of initial discovery, SAS filed its IPR challenging all of the claims in the '936 Patent on multiple grounds, and the district court stayed ComplementSoft's suit pending the results. Minute Entry, *ComplementSoft, LLC v. SAS Inst. Inc.*, No. 1:12-cv-07232 (N.D. Ill. May 8, 2013), ECF 44.

On August 12, 2013, the Board rendered its institution decision. After reviewing the voluminous petition and expert declaration submitted by SAS, *see* J.A. 4-76, the Board instituted IPR with regard to most, but not all of the claims.

With regard to claim 2, the Board found that SAS "failed to demonstrate a reasonable likelihood that it would prevail[.]" Pet. App. 124a-125a. The Board found that the cited passage of the prior art reference relied on by SAS did not meet the claim language, and noted that SAS only "generally point[ed] to a description" of a broad portion of the reference to support its assertion. *Id.*

With regard to claims 11-16, the Board found that SAS failed to comply with the Board's rules regarding means-plus-function claims.[2] Pet. App. 115a-116a. Specifically, the Board found that while its rules expressly require a petitioner requesting review of a means-plus-function claim to "identify the specific

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[2] A description of means-plus-function claims and the principles that apply to interpreting them and determining their validity under Federal Circuit law can be found at, e.g., *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015).

portions of the specification that describe the structure, material, or acts corresponding to each function," SAS failed to identify what structure in the specification it claimed to correspond to the limitations in claims 11-16. The Board found that "SAS's analysis, therefore, is insufficient[.]" *Id.*

The parties then proceeded through the patent owner's full response, discovery, and a trial.

In its final written decision, the Board upheld the validity of claim 4 and invalidated claims 1-3 and 5-10. Pet. App. 43a. The Board did not issue a final written decision as to claims 2 and 11-16, which it already found to have no reasonable chance of being invalidated at the institution stage. Pet. App. 84a. The Federal Circuit affirmed the Board in all regards, except that for claim 4, it affirmed the Board's claim construction but remanded for further proceedings. Pet. App. 1a-22a. Those remand proceedings have been stayed pending this appeal.

SUMMARY OF THE ARGUMENT

SAS had more than adequate opportunity to persuade the Board that the patent claims at issue in this appeal were invalid. In response to SAS's petition, though, the Board concluded that there was not even a reasonable likelihood that SAS could succeed, and, for all but one of the uninstituted claims, found that SAS failed to comply with the Board's rules.

SAS asks the Court to hold that the Board should have engaged in discovery and trial on SAS's doomed arguments and should have entered a final written decision on them. There is but one reason to pursue this expensive and wasteful exercise, and that is to give the accused infringer the opportunity to appeal the Board's decision on those claims. Yet that is

a remedy that the statute expressly forecloses by making institution decisions unreviewable.

Neither the plain text of the statutory provision—in isolation or in context—nor the purpose of the statute are served by forcing patent owners and the Board to expend resources litigating invalidation arguments to a final written decision where the petitioner failed to show a reasonable chance of success at the institution stage. Instead, the plain text and the overall statutory context demonstrate that the Board may elect to review only those claims where there is a reasonable chance that the petitioner will succeed and need not otherwise deny a petition outright or use its limited resources litigating unreasonable arguments by petitioners.

SAS's policy and legislative-purpose arguments are similarly unfounded. SAS attempts to find a legislative intent that simply does not exist in the text of the statute or its legislative history. Nor does the statute, even under SAS's interpretation, remotely result in the final resolution of the validity of all claims of a patent in a single forum, which SAS claims to be the statute's very purpose.

Even if SAS were correct about the purpose of the statute, though, partial institution furthers the goal of expeditious resolution of validity questions. Because validity is always a claim-by-claim analysis, it only makes sense that an IPR be used only for those specific claims where the petitioner might be expected to prevail. A petitioner unhappy with a partial institution decision can always elect to proceed in district court instead of the IPR.

At most for SAS, however, the statute is ambiguous with regard to partial institution. Therefore, the Board's interpretation should be given deference under *Chevron*.

ComplementSoft will address the *Chevron* issue generally, but defers to the arguments made by the Board on this issue.

Finally, even if SAS is correct that partial institution is improper, the correct remedy is not to force the Board to review the claims for which it declined institution here. Instead, the final written decision should be vacated and the Board should be permitted the opportunity to revisit its institution decision altogether.

ARGUMENT

I. BOTH THE PLAIN TEXT AND STATUTORY CONTEXT SUPPORT PARTIAL INSTITUTION AND ARE CONTRARY TO SAS'S STATUTORY INTERPRETATION

A. Patent Law Is Based on a Claim-By-Claim Analysis

For a very long time, and certainly at the time the AIA became law, the patent system has been based around claims. *See* R. Carl Moy, Moy's Walker on Patents § 4:1 (4th ed. 2017) ("the patent claim is the basic source from which the subject matter of the patent right is determined"). Patents generally have multiple claims, both independent and dependent. Some may be valid and infringed, and others not. A court may grant a motion to dismiss or a motion for summary judgment on some claims but not others. The infringement and invalidity contentions required by many district courts must be done on a claim-by-claim basis. In the very IPR at issue here, the Board upheld one claim while invalidating others.

B. The Plain Text of the Statute and the Context in Which It Appears Do Not Require the Board and Patent Owners to Spend Resources Litigating Arguments with No Reasonable Chance of Success

The AIA lays out a multi-part, time-sequenced process for IPRs, which appear in the statute in the following order: (1) general provisions explaining who can file an IPR, when it must be filed, and on what grounds it may be filed (§ 311); (2) the specific contents of the petition (§ 312); (3) the preliminary response from the patent owner (§ 313); (4) the Board's institution decision (§ 314); (5) discovery and trial (§ 316); and (6) the Board's decision on the merits (§ 318).

In these provisions, Congress used three different phrases to describe actions taken by the petitioner. In the general provisions about what can be pursued in an IPR, Congress used the phrase "may request to cancel as unpatentable." 35 U.S.C. § 311(b). In the provision governing the petition itself, Congress required that "the petition" identify "each claim challenged," the "grounds on which the challenge to each claim is made," and the "evidence that supports the grounds for the challenge to each claim." *Id.* § 312(a)(3). In the institution provision, Congress again specifically referred to "the information presented in the petition." *Id.* § 314(a). In the final written decision provision, however, Congress used the phrase "any patent claim challenged by the petitioner." *Id.* § 318(a).

When Congress uses different phrases in a statute, it is generally presumed that it intended different meanings. *Sosa v. Alvarez-Machain*, 542 U.S. 692, 712 n.9 (2004) (noting "the usual rule that 'when the legislature uses certain language in one part of the statute and different language in another, the court assumes

different meanings were intended'") (quoting N. Singer, Statutes and Statutory Construction, § 46:06, 194 (6th rev. ed. 2000)); *Jama v. Immigration & Customs Enf't*, 543 U.S. 335, 357 (2005) ("Congress thus used two different words ('another' and 'a') in parallel provisions of two immediately adjacent and otherwise similar paragraphs.") (Souter, J. dissenting); *Doe v. Chao*, 540 U.S. 614, 630 (2004) ("Nor, when Congress used different words, here 'actual damages sustained by the individual' and 'a person entitled to recovery,' should a court ordinarily equate the two phrases.") (Ginsburg, J. dissenting). There is no question that Congress used different phrases in the institution and final written decision provisions, and that difference should be given effect.

The difference in language in the various stages should also be considered in a manner consistent with the progressive steps that occur in an IPR. After starting with the broadest stage in the most general, pre-petition provision, and using a narrower phrase in the institution stage, Congress used yet another phrase in the final written decision stage. Given that the IPR provisions set forth a progression of steps, the difference in language at the final step should continue the narrowing progression from "may request," to challenged in "the petition," to remaining "challenged" after institution; should be understood to apply to claims challenged in the specific stage in which the term is used; and should be interpreted to exclude any claims for which the petitioner had failed to make a proper challenge at the institution stage. This is also consistent with the gatekeeping role that the institution decision plays. *See* 35 U.S.C. § 314.

SAS asks the Court to ignore this differing language and stage-by-stage statutory scheme. The Court should reject that approach.

Even if SAS were correct, however, which it is not, this does not lead to the conclusion SAS seeks. As even the institution-stage provision makes clear, "challenge" is not used in a broad, allegedly plain-meaning manner. *See Challenge (vb.),* Black's Law Dictionary (10th ed. 2014) ("1. To dispute or call into question[.] 2. To formally object to the legality or legal qualifications of[.]"). Simply asserting to the Board, "I object to the validity of the claims in this patent" is not "challenging" anything in the context of the statute, notwithstanding any plain-meaning definition of the term.

Rather, even at the institution stage, "challenge" means that the petition has "identifie[d], in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for challenge to each claim." 35 U.S.C. § 312(a)(3). The petition must also provide "such other information as the Director may require by regulation." *Id.* § 312(a)(4). To proceed further in the IPR process, there must be "a reasonable likelihood that the petitioner would prevail." *Id.* § 314(a). All of this makes clear that "challenge" means the submission of a petition for each individual claim that includes all of the information required by statute and by the Board's regulations and that demonstrates a reasonable chance of success. Anything less is not a "challenge" as the term is used in the statute. At most, it is a "request."

Statutory context also supports this conclusion, and, as always, must be considered when interpreting statutory text. *See King v. Burwell*, 135 S. Ct. 2480, 2488-95 (2015) (finding "an Exchange established by the

State" ambiguous as to inclusion of federal exchanges in light of surrounding statutory context despite "strong" plain-text argument; declining as an extraordinary case to apply *Chevron* based on deep economic and political significance of the question and lack of IRS expertise in health care policy; and including federal exchanges within the phrase based on the broader structure of the Act and the impact on the overall statutory regime to exclude them); *Abramski v. United States*, 134 S. Ct. 2259, 2267 (2014) ("In a straw purchase, who *is* the 'person' or 'transferee' whom federal gun law addresses? . . . . In answering that inquiry, we must (as usual) interpret the relevant words not in a vacuum, but with reference to the statutory context, 'structure, history, and purpose.'") (emphasis in original) (quoting *Maracich v. Spears*, 133 S. Ct. 2191, 2209 (2013)); *Roberts v. Sea-Land Serv., Inc.*, 566 U.S. 93, 101 (2012) ("Statutory language, however, 'cannot be construed in a vacuum. It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme.'") (quoting *Davis v. Mich. Dept. of Treasury*, 489 U.S. 803, 809 (1989)).

As discussed above, the IPR provisions are set forth in various discrete stages. This indicates that "challenged" in the post-institution stage, in a regime that does not allow any proceedings unless and until the Board elects to institute them, must be understood as specific to that stage of the proceedings. If the Board rejects challenges against particular claims at the institution stage—and there is no reason that possibility would be a surprise to Congress—a petitioner cannot raise them in the trial stage, and no final written decision is required for them.

In addition, the estoppel provision contemplates that not all challenged claims will be the subject of a final written decision. It states that a petitioner in "an inter partes review *of a claim* in a patent under this chapter that results in a final written decision" is estopped from asserting "that *the claim* is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. § 315(e)(2) (emphasis added). Had Congress intended SAS's interpretation, it would simply have written "a petitioner is estopped from asserting that any claim included in its petition" is invalid. Or, if Congress really intended that there be no further validity litigation on the patent, as SAS argues, Congress could have simply applied estoppel to all claims in any patent reviewed in an IPR.

Equally important is the statute's no-appeal provision for institution decisions—a crucial and fundamental provision in the IPR regime. "The determination by the Director whether to institute an inter partes review under this section shall be final and non-appealable." *Id.* § 314(d). Consistent with the bedrock principle that patent law involves an inherently claim-by-claim analysis, the decision to institute on some but not all claims is a determination whether to institute, and the no-appeal provision should apply to it.

SAS's interpretation makes no sense in light of the no-appeal provision. As SAS would have it, if the Board elects not to review any claims, the petitioner is completely out of luck, but if the Board elects to institute on some but not others, suddenly the decision not to institute on particular claims becomes reviewable. No possible purpose would be served by this interpretation, and SAS offers no answer as to why Congress would have intended such an odd result.

The no-appeal issue can also be viewed from a slightly different perspective that leads to the same result. According to SAS, if the Board determines that some claims are worth its time to litigate and others are not, the Board must either deny the petition entirely in an unreviewable decision (other than on limited bases like Constitutional questions, for which the Court left open the possibility of review in *Cuozzo Speed Technologies, LLC v. Lee*, 136 S. Ct. 2131, 2136 (2016)), or it must spend its time and resources litigating claims where there is no reasonable chance the petitioner will actually succeed. This too serves no purpose, and SAS offers no explanation for why Congress would have wanted such a bizarre process. While perhaps the Board, under SAS's construction, could simply conduct no discovery or trial on those claims and just issue a final written decision based solely on the inadequate petition, that yields, as a practical matter, the exact result that Congress did not want: appellate review of an institution decision.

SAS also attempts to support its interpretation with the "Scope" section of the statute. 35 U.S.C. § 311(b). Petitioner Br. at 23. As discussed above, that section does not use the term "challenge"; instead it says that a petitioner "may request to cancel as unpatentable" one or more claims. These are distinct concepts: "request" is a broad term, and in contrast to it, "challenge" implies meeting applicable threshold requirements. The provision is therefore unhelpful to the analysis, and, if anything, serves to support a narrower interpretation of "challenge" in the final written decision provision.

Further, the Scope provision merely describes generally what a petitioner is allowed to request in an IPR

(cancellation of "1 or more claims of a patent only on a ground that could be raised under section 102 or 103" and only on the basis of prior art consisting of patents or printed publications) and says nothing about what a petitioner must show to permit institution or on what claims the Board must issue a final written decision. *Id.* This is further confirmed by the surrounding provisions in Section 311, which explain who may file an IPR, allow the Director to set fees, and provide filing deadlines. *Id.* § 311. None of this suggests that the Scope provision is some general interpretation dictate or requires the Board to issue a final written decision on claims that were not legitimately placed at issue at the institution stage and that would be a waste of time to litigate.

In support of its interpretation, SAS also relies on *United States v. Rosenwasser*, 323 U.S. 360 (1945). Petitioner Br. at 21. The language in that case was "shall" pay to each of his employees a minimum wage, and "employee" was defined as "any individual employed by an employer." *Rosenwasser*, 323 U.S. at 362-63. Not surprisingly, the Court held that "any individual employed" included all employees regardless of how they were employed, which ensured that workers paid by the piece would still be guaranteed a minimum wage. *Id.* But the issue in our case, as SAS admits, is not the words "shall" or "any," but rather, the word "challenged." Petitioner Br. at 23. *Rosenwasser* is therefore of no moment.

SAS's reliance on Section 316(d) is similarly unhelpful to its arguments, and in fact undermines them. Petitioner Br. at 27. That provision says that "[d]uring an inter partes review instituted under this chapter," a patent owner may "[c]ancel any challenged patent

claim." 35 U.S.C. § 316(d)(a)(A). Under SAS's interpretation, this includes the ability to cancel any claims that appear in the petition, including any claims for which the Board already determined at the institution stage that there is no reasonable chance the petitioner will succeed in invalidation—a cancellation that would be nonsensical in actual practice.

Further, if SAS is correct, the Board would still be required, under SAS's plain-text interpretation, to issue a final written decision on cancelled claims because they were "challenged" in the petition, which SAS contends to be the stage of the IPR in which "challenged" is measured. SAS attempts to avoid this absurdity by grafting an unwritten exception onto its own allegedly plain-language arguments on the basis that the Board "would not need to adjudicate such a nullity." Petitioner Br. at 27. Yet that exception simply proves the point against SAS's interpretation: a petitioner's invalidation argument that either fails to comply with the Board's rules or has no reasonable hope of success at the institution stage is every bit as much a nullity as a cancelled claim.

Finally, SAS relies on a flawed analogy to civil litigation. According to SAS, its statutory interpretation is "just as it is in ordinary civil litigation—the plaintiff is 'the master of the complaint,' [citation], and, even where a plaintiff's claims for relief are dismissed at the outset of litigation . . . those dismissals merge into the final judgment and can be appealed." Petitioner Br. at 24. There is a glaring and fatal omission from SAS's analogy, however: while there is a right to appeal the dismissal of even a single count in a complaint, Congress expressly precluded any appeal of the decision not to institute an IPR—something that has no paral-

lel to district court litigation and dispositively distinguishes it. Unlike a district court, the Board has unreviewable discretion (within the confines of *Cuozzo*) to act as a gatekeeper in determining what, if anything, will be adjudicated. And if the decision to institute on no claims is unreviewable, there is no logical reason to allow for review of the decision not to institute some of them.

The plain text of the statutory provision and the context in which it appears support the Board's practice of claim-by-claim institution and declining to litigate claims where the petitioner failed to show a reasonable chance of success or failed to comply with the Board's rules.

II. AT MOST, THE STATUTORY PROVISION IS AMBIGUOUS, AND THE BOARD'S INTERPRETATION ENJOYS *CHEVRON* DEFERENCE

The AIA does not set forth the "well-oiled engine" that SAS describes. Petitioner Br. at 39 (quoting dissent below). To the contrary:

- According to SAS, it allows for no appeal of a decision not to institute review of any of the patent claims at issue, but makes the institution denial reviewable if the Board elects to institute on some of the claims.
- According to SAS, it uses both varying "challenge" phrases and the phrase "request to cancel" interchangeably for no good reason.
- According to SAS, its Scope section was an effort to indicate legislative interpretive

intent and govern the entirety of the IPR provisions simply by stating what a petitioner could request to cancel.

- According to SAS, it has an unwritten exception to the final written decision requirement for claims challenged in the petition if those claims are cancelled by the patent owner.

Far from being a vehicle to cut down *Chevron* deference, Petitioner Br. at 40, this case is a good example of why to affirm its validity and importance.

ComplementSoft defers to the Board with regard to further arguments as to why *Chevron* deference applies and why the Board's position is afforded deference under *Chevron*.

III. READING SECTION 318(a) IN CONTEXT AND AS INTERPRETED BY THE BOARD ACHIEVES THE GOALS OF THE AMERICA INVENTS ACT AND WILL RESULT IN A FAIRER AND MORE EFFICIENT INTER PARTES REVIEW PROCESS

SAS's policy and legislative purpose arguments assume something that has no basis in the statute: that an IPR is meant to be a complete alternative to district court litigation with regard to the validity of every claim in an asserted patent.

As discussed above, there are a number of ways that the validity of patent claims can be challenged again by an accused infringer after an unsuccessful IPR. There is also not even a requirement that an accused infringer challenge all of the claims in suit in its IPR petition for it to be considered by the Board. Such

a partial petition obviously leaves open the validity of claims to be litigated in district court. If Congress intended what SAS asserts, it would have limited IPRs only to claims in litigation, and then only when the IPR addresses every claim at issue in the litigation. Congress did neither of those things despite the relative simplicity of doing so.

Further, SAS relies on legislative history that lacks context and is overly simplified. Petitioner Br. at 31. It is true that the quoted passages discuss a prohibition on "improperly mounting multiple challenges to a patent," *id.*, but SAS provides no indication that the Committee's report used the word "patent," as opposed to "patent claim," deliberately. Protection from repeated challenges would logically apply only to multiple attacks on the same claims, as opposed to separate attacks on separate claims. The same is true of the statements of individual legislators and Director Kappos. *Id.* Because the entire patent system is based on individual claims, each of which is individually assessed for infringement and validity, all of this legislative history must be understood with that in mind, and it defeats SAS's legislative intent argument.

Partial institution also does not result in any "adjudication of the same issues in litigation." Petitioner Br. at 31. The validity of two different claims is not a single issue, but two separate issues that may yield different results and may not even involve all of the same prior art. *See* J.A. 5-6 (table of contents to SAS's petition citing different combinations of prior art for different patent claims). And if the Board does not institute review as to a particular claim, there has been no adjudication and therefore no repeated adjudication of the same issue later in district court.

Similarly, SAS argues that Congress intended IPRs to be a completely alternative forum "for resolving patent validity issues." Petitioner Br. at 17 (quoting dissent below). To the contrary, as discussed above, there are myriad ways of challenging the validity of patent claims after an unsuccessful IPR, including reliance on other forms of art, or on art that the petitioner could not "reasonably" have been expected to find (yet somehow found in time for district court litigation), or based on entirely different validity provisions like Sections 101 and 112. Nor is there any requirement that a petition include every claim that was asserted in litigation or even that the petition be brought by an accused infringer.

In addition, SAS's argument presumes that in the event an IPR is instituted, the district court litigation will be stayed—otherwise the parties would be engaged in parallel validity proceedings. Nothing in the statute requires that result, even though Congress could have mandated an automatic district court stay pending the resolution of an IPR in every case. Instead, Congress limited automatic stays to declaratory judgment suits of invalidity brought by a petitioner. 35 U.S.C. § 315(a)(2). In fact, stays have been granted in less than 6 out of 10 cases. *See* Intellectual Property Owner's Ass'n Br. at 8. If Congress truly intended a single-forum resolution of the sort SAS asserts, it would have expressly created one, and would not have created a system that fails to achieve that goal 40% of the time.

Nor is the IPR process available only to accused infringers, which again undermines SAS's claimed legislative intent. As discussed above, hedge funds, for example, have used IPRs to attempt to profit on decline in the value of their stocks sold short. There is

nothing in the statute that prevents enterprising IPRs by those not accused of infringement, despite the ease with which such language could be drafted. This indicates that SAS's single-forum argument does not match with Congressional intent.

As this all makes clear, if a dog was expected to bark at anything, *see* Petitioner Br. at 32 (citing *Chisom v. Roemer*, 501 U.S. 380, 396 n.23 (1991)), it would be to support SAS's claim that notwithstanding the obvious structural failures foreclosing achievement of SAS's claimed legislative goal, notwithstanding the clear Congressional intent not to make institution decisions reviewable, notwithstanding the gatekeeping role played by the Board before instituting review, and notwithstanding limitations on the Board's resources to meet the short deadlines to complete IPRs, the Board is still required either to waste its time litigating unreasonable arguments by petitioners or else deny institution entirely when there is a good reason to litigate at least some of the claims. "[T]he legislative record contains no suggestion whatsoever" that Congress intended the inefficient, illogical, and statutorily ill-equipped result that SAS claims to have been Congress's intent. *See* Petitioner Br. at 32; *see also Chisom*, 501 U.S. at 406 (criticizing conclusion that "if the dog of legislative history has not barked nothing of great significance can have transpired," and noting that the Court has "forcefully and explicitly rejected the Conan Doyle approach to statutory construction in the past") (Scalia, J. dissenting).

SAS's interpretation also leads to potentially negative incentives for the Board. Thus far, the Board has made substantial use of partial institution. One study has found that only "38.4% of petitions that received an institution decision were fully instituted." Saurabh

Vishnubhakat, Arti K. Rai & Jay P. Kesan, *Strategic Decision Making in Dual PTAB and District Court Proceedings*, 31 Berkeley Tech. L.J. 45, 78 (2016). Faced with a petition that meets its burden as to some claims but not others, the Board has basically unreviewable discretion to deny the IPR in full, rather than waste its limited resources addressing claims for which the petitioner has not shown even a reasonable likelihood of success worthy of the Board's time. Given the short statutory timeline for completing IPRs and the volume being filed, the Board would have every incentive to deny split petitions rather than proceed to final written decisions on bad arguments. This would be expected to reduce, not increase, the use of IPRs to resolve validity issues, and cannot be reconciled with Congress's intent. *Cf. King*, 135 S. Ct. at 2496 ("Congress passed the Affordable Care Act to improve health insurance markets, not to destroy them.").

SAS also ignores the choices available to the petitioner if it can only achieve institution on a subset of claims. In the event that an accused infringer, like SAS, is unhappy with a partial institution decision, there is nothing stopping it from ending its IPR and proceeding in the single forum of a district court instead.[3] After all, according to SAS, its primary concern, and that of Congress, is allegedly to have a single forum determination, regardless of the results. Rather than do that, though, SAS has engaged in years of Board and Federal Circuit litigation to fight the partial institution issue. The reason is simple: it is not an efficient resolution accused infringers like SAS

[3] While it is true that the Board can finish an IPR even if the parties settle and want to end it, that would appear unlikely except in instances in which the adversarial portion of the process had already been completed.

seek, but the benefits of the more favorable claim construction and burden of proof standards in IPR proceedings and the possibility of gaining settlement leverage through the cost and delay of an IPR. It is only by forcing a final written decision on arguments for which there is, by definition, no reasonable hope of success, that an accused infringer like SAS can force an appellate review by the Federal Circuit of that determination—something Congress expressly did not intend and which will cause further delay.

IV. THE COURT'S *CUOZZO* DECISION IS CONTRARY TO SAS'S ARGUMENTS IN MANY WAYS

While SAS makes reference to the Court's *Cuozzo* decision, it misses a number of aspects that are relevant here.

First, *Cuozzo* confirms the continued vitality of *Chevron* deference and that it has application to the AIA and the Board's rulemaking. 136 S. Ct. at 2142-44.

Cuozzo also explains that "one important congressional objective" was "giving the Patent Office significant power to revisit and revise earlier patent grants" to help restore "confidence in the presumption of validity that comes with issued patents." *Id.* at 2139-40 (quoting, in final passage, H.R. Rep. No. 112-96, pt. 1, at 45-48 (2011)). That objective is one that is satisfied only on a claim-by-claim basis. If anything, the presumption of validity enjoys even further confidence when IPRs are properly focused on individual claims, as the Board's rules do.

Cuozzo also addressed the reviewability of "the kind of initial determination made here—that there is a

'reasonable likelihood' that the claims are unpatentable on the grounds asserted." *Id.* at 2140. The Court noted that it has previously found such initial determinations to be unreviewable in other contexts. *Id.* There is no logical reason to make that determination reviewable here simply because the Board elected to institute on other claims where there actually was a reasonable chance of success.

Finally, *Cuozzo* confirms that notwithstanding the importance SAS places on resolving the validity of all claims in a patent being asserted against the petitioner, "any third party can ask the agency to initiate inter partes review of a patent claim." *Id.* at 2137.

V. SAS SEEKS THE WRONG REMEDY

In the event the Court agrees with SAS, the appropriate remedy is not to force the Board to litigate or enter a final written decision with regard to the claims on which SAS failed to meet its burden at the institution stage. Rather, the appropriate remedy would be to strike down the Board's partial institution rules, vacate the IPR decision that would have been inappropriately rendered, and allow the Board the opportunity to decide again in the first instance whether it still wishes to institute this IPR. Only this approach would put the parties in the place they would have been had the Board interpreted the statutory provisions the way SAS asserts. *See Getty v. Fed. Sav. & Loan Ins. Corp.*, 805 F.2d 1050, 1061 (D.C. Cir. 1986) ("In fashioning our remand order, our goal must be to place Getty in the situation he would have been in had FSLIC not acted improperly. But we should not improve his position.") (citing *Delta Data Sys. Corp. v. Webster*, 744 F.2d 197, 206 (D.C. Cir.1984)); Charles H. Koch, Jr. & Richard Murphy, 3 Admin. L. & Prac. § 8:31 (3d ed. 2017) ("As a general principle, a

court should assure that its remand order does not intrude unnecessarily into the agency's authority.").

CONCLUSION

The judgment of the Federal Circuit should be affirmed. If the judgment of the Federal Circuit is reversed, the case should be remanded to the Federal Circuit with instructions to vacate the Board's final written decision and remand to the Board to issue a new institution decision.

Respectfully submitted,

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No. 16-969

In the Supreme Court of the United States

SAS INSTITUTE INC., PETITIONER

v.

JOSEPH MATAL, INTERIM DIRECTOR, UNITED STATES PATENT AND TRADEMARK OFFICE, ET AL.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT

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QUESTIONS PRESENTED

Section 314 of the Patent Act of 1952 (Patent Act), 35 U.S.C. 1 *et seq.*, authorizes the U.S. Patent and Trademark Office (USPTO) to decide whether to institute an inter partes review to reconsider the patentability of claims in existing patents. 35 U.S.C. 314. Section 314(a) authorizes the USPTO to institute a review if it determines, based on the petition requesting review and any preliminary response by the patent owner, "that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. 314(a). Section 318(a) of the Patent Act provides that, "[i]f an inter partes review is instituted and not dismissed," the USPTO's Patent Trial and Appeal Board (Board) must issue a final written decision addressing the patentability of "any patent claim challenged by the petitioner and any new claim added" by amendment after the petition for review was filed. 35 U.S.C. 318(a). The questions presented are as follows:

1. Whether the USPTO may agree to institute inter partes review regarding the patentability of a subset of the patent claims of which review is requested.

2. Whether, if the USPTO institutes review of some but not all of the claims that are challenged in a petition for inter partes review, the Board must address the unreviewed claims in its final written decision.

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In the Supreme Court of the United States

No. 16-969

SAS INSTITUTE INC., PETITIONER

v.

JOSEPH MATAL, INTERIM DIRECTOR, UNITED STATES PATENT AND TRADEMARK OFFICE, ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 1a-40a) is reported at 825 F.3d 1341. The opinion of the Patent Trial and Appeal Board (Pet. App. 103a-128a) on institution of inter partes review is not published but is available at 2013 WL 8595939. The final written decision of the Patent Trial and Appeal Board (Pet. App. 41a-86a) is not published but is available at 2014 WL 3885937.

JURISDICTION

The judgment of the court of appeals was entered on June 10, 2016. A petition for rehearing was denied on November 7, 2016 (Pet. App. 87a-102a). The petition for a writ of certiorari was filed on January 31, 2017, and was granted on May 22, 2017. The jurisdiction of this Court rests on 28 U.S.C. 1254(1).

STATUTORY AND REGULATORY PROVISIONS INVOLVED

Pertinent statutory and regulatory provisions are reproduced in an appendix to this brief. App., *infra*, at 1a-28a.

STATEMENT

1. The Patent Act of 1952 (Patent Act), 35 U.S.C. 1 *et seq.*, charges the U.S. Patent and Trademark Office (USPTO) with examining applications for patents, and it directs the USPTO to issue a patent if the statutory criteria are satisfied. 35 U.S.C. 131. Federal law has long permitted the USPTO to reconsider the patentability of the inventions claimed in issued patents. See *Cuozzo Speed Techs., LLC* v. *Lee*, 136 S. Ct. 2131, 2137 (2016) (*Cuozzo*). Over the past several decades, Congress has established and modified several administrative mechanisms by which the agency may revisit existing patents. See *ibid.*; H.R. Rep. No. 98, 112th Cong., 1st Sess. 45-46 (2011) (House Report) (recounting history of review mechanisms).

a. In 1980, Congress empowered the USPTO to conduct what is known as ex parte reexamination of existing patent claims. *Cuozzo*, 136 S. Ct. at 2137; see Act of Dec. 12, 1980 (1980 Act), Pub. L. No. 96-517, 94 Stat. 3015 (35 U.S.C. Ch. 30). The statute authorized the USPTO to conduct ex parte reexamination of "any claim of a patent" "at any time," either at the request of "[a]ny person" or on the agency's "own initiative," if the USPTO determined that prior art raised a "substantial new question of patentability." 1980 Act § 1, 94 Stat. 3015 (35 U.S.C. 302, 303(a)). Under that regime, the USPTO determined on a claim-by-claim basis whether a "substantial new question of patentability" existed.

See U.S. Patent & Trademark Office, Dep't of Commerce, *Manual of Patent Examining Procedure* §§ 2243, 2246 (8th ed. Rev. 8, July 2010) (2010 *MPEP*). If the agency determined "that no substantial new question of patentability ha[d] been raised," that determination was "final and nonappealable." 1980 Act § 1, 94 Stat. 3016 (35 U.S.C. 303(c)). When the agency elected to conduct ex parte reexamination, it proceeded to reconsider the patentability of the claims at issue. *Cuozzo*, 136 S. Ct. at 2137.

In 1999, Congress created an additional mechanism for reviewing existing patent claims, called inter partes reexamination, that afforded "third parties greater opportunities to participate in the [USPTO's] reexamination proceedings." *Cuozzo*, 136 S. Ct. at 2137; see Optional Inter Partes Reexamination Procedure Act of 1999, Pub. L. No. 106-113, Tit. IV, Subtit. F, §§ 4601-4608, 113 Stat. 1501A-567 to 1501A-572 (35 U.S.C. 311-318 (2000)). Like ex parte reexamination, inter partes reexamination allowed third parties to petition the USPTO "at any time" to reexamine the patentability of claims in existing patents if the third party raised "a substantial new question of patentability." 35 U.S.C. 311(a), 312(a), 313 (2000). The USPTO applied that standard on a claim-by-claim basis. See 2010 *MPEP* §§ 2643, 2646; see, *e.g.*, *Belkin Int'l, Inc.* v. *Kappos*, 696 F.3d 1379, 1381-1382 (Fed. Cir. 2012). And, as with ex parte reexamination, the agency's determination whether a substantial new question of patentability existed was "final and non-appealable." 35 U.S.C. 312(c) (2000). Unlike in ex parte reexamination, however, if the USPTO elected to institute an inter partes reexamination, the third party could then participate in the administrative proceedings—and, after a further stat-

utory amendment in 2002, could participate in any subsequent appeal. See 21st Century Department of Justice Appropriations Authorization Act, Pub. L. No. 107-273, §§ 13106, 13202, 116 Stat. 1900-1902; *Cooper Techs. Co.* v. *Dudas*, 536 F.3d 1330, 1332 (Fed. Cir. 2008).

b. In 2011, Congress enacted the Leahy-Smith America Invents Act (AIA), Pub. L. No. 112-29, 125 Stat. 284, which further modified the framework for USPTO review of claims in existing patents. See *Cuozzo*, 136 S. Ct. at 2137-2138. In response to "a growing sense that questionable patents are too easily obtained and are too difficult to challenge," Congress enacted the AIA to "establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs." House Report 39-40. The AIA retained ex parte reexamination, modified in certain respects. AIA § 6(g), 125 Stat. 312-313. The AIA eliminated inter partes reexamination, and in its place adopted two new procedures for challenging the patentability of claims in issued patents.

i. For challenges to patentability brought within nine months after a patent is issued, Congress created a new procedure called post-grant review. See 35 U.S.C. 321-329. During that nine-month window, any person other than the patent's owner may seek review of the patentability of a claim "on any ground that could be raised under paragraph (2) or (3) of [35 U.S.C.] 282(b)." 35 U.S.C. 321(b). Those grounds include, *inter alia*, failure of the patent or claim to satisfy any condition of patentability set forth in 35 U.S.C. 100-212 (2012 & Supp. III 2015). See 35 U.S.C. 282(b)(2). The USPTO "may not authorize a post-grant review to be instituted unless [it] determines that" the petitioner has shown "that it is more likely than not that

at least 1 of the claims challenged in the petition is unpatentable." 35 U.S.C. 324(a). "The determination by the Director whether to institute a post-grant review under this section shall be final and nonappealable." 35 U.S.C. 324(e). Post-grant review is not directly at issue in this case, but the agency has implemented that review mechanism through procedures analogous to those challenged here, and petitioner's argument implicates those mechanisms as well. See 37 C.F.R. 42.208(a); Pet. Br. 7 n.1.

ii. For challenges brought after that nine-month period, the AIA established the procedure at issue in this case, which is known as inter partes review. See 35 U.S.C. 311-319; *Cuozzo*, 136 S. Ct. at 2137-2138. Inter partes review likewise may be sought by any person other than the patent's owner, but "only on a ground that could be raised under [35 U.S.C.] 102 or 103"—*i.e.*, that the claimed invention is not novel or is obvious—"and only on the basis of prior art consisting of patents or printed publications." 35 U.S.C. 311(b); see 35 U.S.C. 102-103 (2012 & Supp. III 2015). To request inter partes review, a party must file a petition that identifies, "in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." 35 U.S.C. 312(a)(3). The patent owner may file a preliminary response to the petition. 35 U.S.C. 313.

The USPTO must then make a "[t]hreshold" determination as to whether to "authorize an inter partes review to be instituted," and it must provide notice of its decision to the petitioner, the patent owner, and the public. 35 U.S.C. 314(a) and (c). The USPTO must determine whether to institute inter partes review within three months after the completion of briefing on the petition.

35 U.S.C. 314(b). The Director has delegated this responsibility to its Patent Trial and Appeal Board (Board). 37 C.F.R. 42.4(a). The AIA does not require the agency to grant inter partes review in any circumstance. See *Cuozzo*, 136 S. Ct. at 2140 (AIA does not impose a "mandate to institute review"). It prohibits the USPTO from instituting review, however, unless the agency determines that "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. 314(a). As with post-grant review, the USPTO's decision whether to institute inter partes review is "final and nonappealable." 35 U.S.C. 314(d); see *Cuozzo*, 136 S. Ct. at 2142.

If the USPTO elects to institute inter partes review, the Board then conducts a trial-like proceeding to determine the patentability of the claims at issue. See 35 U.S.C. 316; 37 C.F.R. Pt. 42, Subpt. A. Both parties are entitled to take limited discovery, 35 U.S.C. 316(a)(5); to file affidavits and declarations, 35 U.S.C. 316(a)(8); to request an oral hearing, 35 U.S.C. 316(a)(10); and to file written memoranda, 35 U.S.C. 316(a)(8) and (13). The patent owner also "may file 1 motion to amend the patent." 35 U.S.C. 316(d); see *Cuozzo*, 136 S. Ct. at 2145.

At the conclusion of that proceeding (unless the matter has been dismissed), the Board must "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added" to the patent by amendment while the inter partes review proceeding is ongoing. 35 U.S.C. 318(a). The Board generally must issue its final written decision within one year. 35 U.S.C. 316(a)(11). A party aggrieved by the Board's final written decision may appeal that decision to the Federal Circuit. 35 U.S.C. 141(c), 319. If the party seeking inter partes review and

the patent owner jointly request that the proceeding be terminated before the Board decides the merits, the proceeding is terminated as to those parties, but the Board retains discretion either to continue the review and decide the merits or to terminate the review. 35 U.S.C. 317(a); see *Cuozzo*, 136 S. Ct. at 2144.

The AIA also addresses the relationships between inter partes review proceedings concerning a particular patent claim and other proceedings involving the same claim or patent. 35 U.S.C. 315. The USPTO may not grant a request to institute inter partes review if the request is submitted by a party that has previously filed a civil action challenging a claim of the same patent, 35 U.S.C. 315(a)(1), or if that party was served with a complaint alleging infringement of the patent more than a year before filing its petition for inter partes review, 35 U.S.C. 315(b). If the USPTO grants inter partes review of a claim and issues a final decision, the petitioner thereafter is estopped from "request[ing] or maintain[ing] a proceeding" before the agency "with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. 315(e)(1). The petitioner likewise is barred from "assert[ing] either in a civil action" or in proceedings before the International Trade Commission "that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. 315(e)(2).[1]

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[1] The AIA introduced an additional mechanism for reconsidering the patentability of claims for "covered business method[s]." AIA § 18, 125 Stat. 329-331 (capitalization omitted). Like post-grant review, covered-business-method review is not directly at issue in this case, but it has been implemented through procedures analogous to those challenged here. See Pet. Br. 7 n.1.

c. To implement the AIA's new administrative-review scheme, Congress granted the USPTO new rulemaking authority. See 35 U.S.C. 316(a); *Cuozzo*, 136 S. Ct. at 2142. Congress authorized the USPTO to issue regulations "establishing and governing inter partes review" and "the relationship of such review to other proceedings," as well as regulations "setting forth the standards for the showing of sufficient grounds to institute a review." 35 U.S.C. 316(a)(2) and (4). Congress further directed that, in exercising its rulemaking authority under the AIA, the agency should take into account the need to ensure "efficient administration of the [USPTO], and the ability of the [USPTO] to timely complete [inter partes review] proceedings." 35 U.S.C. 316(b).

In 2012, after notice-and-comment procedures, the USPTO exercised that authority by promulgating regulations designed to "secure the just, speedy, and inexpensive resolution of every proceeding" before the Board. 37 C.F.R. 42.1(b); see *Changes to Implement Inter Partes Review Proceedings*, 77 Fed. Reg. 48,727-48,729 (Aug. 14, 2012) (2012 Regulations) (37 C.F.R. Pt. 42, Subpt. B). One such regulation authorizes the Board to streamline an inter partes review by instituting review as to only "some of the challenged claims" identified in a petition for review, and/or as to "some of the grounds of unpatentability asserted for each claim," rather than as to all challenged claims and all asserted grounds of unpatentability. 37 C.F.R. 42.108. Patents frequently contain multiple claims that vary in breadth. See, *e.g.*, J.A. 132-133. Within the same patent, some claims thus may be more vulnerable to challenge than others. The agency explained that "limit[ing] the claims in the review to only those claims that meet the threshold" set forth in the statute helps "to streamline and

converge the issues for consideration" and to provide the patent owner with "a defined set of potentially meritorious challenges." 2012 Regulations, 77 Fed. Reg. at 48,703; see *ibid.* ("It is inefficient and unfair to [the] patent owner to require a full response to challenges on claims that do not meet the initial threshold."). This approach also "aids in the efficient operation of the [USPTO] and the ability of the [USPTO] to complete the proceeding within the one-year timeframe." *Ibid.*; see also *Office Patent Trial Practice Guide*, 77 Fed. Reg. 48,756, 48,765 (Aug. 14, 2012) (2012 Trial Practice Guide).

The USPTO's regulations explain that, although no court can review the Board's decision not to institute inter partes review, a party may seek rehearing of that decision by the Board under 37 C.F.R. 42.71. 2012 Regulations, 77 Fed. Reg. at 48,702-48,703. In cases where review is instituted as to only some of the claims identified in a petition, the Board's practice is to issue a final written decision on those claims for which review was instituted. See, *e.g.*, *Cuozzo*, 136 S. Ct. at 2138-2139 (appeal of Board's final written decision that addressed only claims over which the Board had previously instituted review).

2. a. This case arises from a petition for inter partes review filed by petitioner SAS Institute, Inc., challenging the patentability of claims in a patent issued to respondent ComplementSoft, LLC. In its inter partes review petition, petitioner asked the USPTO to review claims 1-16 of that patent. Pet. App. 104a. The Board agreed to institute review as to claims 1 and 3-10 on certain legal grounds—*viz.*, that those claims are unpatentable because they are obvious over particular prior art. *Id.* at 105a-106a, 127a. But it declined to institute

review as to those same claims on other grounds raised by petitioner, and it declined review altogether as to the remaining claims in the patent (claims 2 and 11-16). *Id.* at 106a, 127a. The Board explained that petitioner had not "establish[ed] a reasonable likelihood of" showing that claims 2 and 11-16 were unpatentable on any ground. *Id.* at 115a; see *id.* at 125a. Petitioner did not request Board rehearing of that decision. See J.A. 2.

After a trial on claims 1 and 3-10, the Board issued a final written decision. Pet. App. 41a-86a. The Board concluded that claims 1, 3, and 5-10 were unpatentable because the claimed invention, as defined in those claims, would have been obvious to a person of ordinary skill in the art, see 35 U.S.C. 103, and it accordingly directed that those claims be cancelled. Pet. App. 43a, 84a-85a. The Board concluded that petitioner had not shown that claim 4 is unpatentable. *Ibid.* The Board's final decision did not address the patentability of the patent's remaining claims. The Board explained that it had "declined to institute an *inter partes* review" of those other claims because petitioner had not "shown that there was a reasonable likelihood of prevailing on its challenges" to those claims, and that those claims accordingly were "not at issue in [the] trial." *Id.* at 84a & n.3; see also *id.* at 73a n.2.

Petitioner sought rehearing of the Board's final decision, arguing (*inter alia*) that the Board was required to issue a final written decision as to all of the claims cited in the original petition, not just those for which the Board had instituted inter partes review. Pet. App. 130a. The Board denied rehearing, explaining in relevant part that its final decision had correctly addressed only those claims that were at issue in the instituted proceeding. *Id.* at 130a-131a.

The parties filed cross-appeals in the Federal Circuit. Pet. App. 2a. The USPTO intervened to defend the Board's authority to institute review as to only a subset of the claims identified in a petition and to issue a final written decision only as to those claims for which review was instituted. C.A. Doc. 25 (May 7, 2015).

b. While those appeals were pending, the Federal Circuit decided *Synopsys, Inc.* v. *Mentor Graphics Corp.*, 814 F.3d 1309 (2016); see Pet. App. 20a-21a.[2] The court of appeals in *Synopsys* held in pertinent part that there is "no statutory requirement that the Board's final decision address every claim raised in a petition for inter partes review." 814 F.3d at 1316-1317; see *id.* at 1315-1317. The *Synopsys* court explained that "the statute is quite clear that the [USPTO] can choose whether to institute inter partes review on a claim-by-claim basis." *Id.* at 1315. The court further explained that, "if there were any doubt about the Board's authority and the statute were deemed ambiguous," *id.* at 1316, the USPTO's regulation allowing partial institution, 37 C.F.R. 42.108, would be entitled to deference under *Chevron U.S.A. Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984). *Synopsys*, 814 F.3d at 1316.

The *Synopsys* court also held that "the claims that the Board must address in the final decision are different than the claims raised in the petition." 814 F.3d at 1315. The court explained that "the statute would make very little sense if it required the Board to issue final decisions addressing patent claims for which inter partes review had not been initiated," and that the statute should not be construed to "require the Board to

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[2] Petitioner filed an amicus brief in *Synopsys*. Pet. App. 21a n.5.

issue a final determination on validity of patent claims without the benefit" of full merits proceedings. *Ibid.*

Judge Newman dissented. She would have held that the USPTO may not grant review as to "only some" of the claims challenged in a petition. *Synopsys*, 814 F.3d at 1332. No party sought further review in *Synopsys*.

c. In the decision below, the court of appeals relied on *Synopsys* and rejected petitioner's argument that the Board was required to address in its final decision all of the claims challenged in the petition for inter partes review. Pet. App. 20a-21a. On the merits, the court upheld the Board's invalidation of claims 1, 3, and 5-10, but remanded for reconsideration of claim 4. *Id.* at 22a. Judge Newman, who was also a member of the panel below, again dissented. *Id.* at 23a-40a.

Petitioner sought rehearing en banc, which was denied. Pet. App. 88a-89a. Judge Newman dissented from the denial of rehearing en banc. *Id.* at 90a-102a.

SUMMARY OF ARGUMENT

In the AIA, Congress established inter partes review as one of several administrative mechanisms through which the USPTO may reconsider claims in patents the agency previously issued. Those mechanisms were designed to create an "efficient system for challenging patents that should not have issued," with the aim of "improv[ing] patent quality and restor[ing] confidence in the presumption of validity that comes with issued patents." *Cuozzo Speed Techs., LLC* v. *Lee*, 136 S. Ct. 2131, 2140, 2144 (2016) (*Cuozzo*) (citations omitted). The AIA gives the USPTO broad discretion in determining whether to institute inter partes review, and it makes the agency's decisions whether to institute review "final and nonappealable." 35 U.S.C. 314(d); see 35 U.S.C. 311-315.

The USPTO (through the Board) exercised that discretion here to institute review of some but not all of the claims that petitioner challenged. After completing the administrative proceeding, the Board rendered a decision addressing the claims it had agreed to review. Petitioner contends that the agency was required either to institute review as to every claim petitioner disputed or to deny review altogether, and that the Board's final decision was required to address every claim for which petitioner had originally sought inter partes review. Petitioner's primary argument is not judicially reviewable, and both of its arguments lack merit.

I. Petitioner's primary submission is that the USPTO was required either to institute review on every patent claim challenged in the petition for review or to deny review altogether. That contention is not properly before this Court, and it is wrong.

A. The AIA states that "[t]he determination by the Director whether to institute an inter parties review shall be final and nonappealable." 35 U.S.C. 314(d). This Court held in *Cuozzo* that Section 314(d) forecloses challenges to the USPTO's decisions whether to institute review, at least "where the grounds for attacking the decision to institute inter partes review consist of questions that are closely tied to the application and interpretation of statutes related to the [USPTO's] decision to initiate inter partes review." 136 S. Ct. at 2141. That preclusion rule encompasses petitioner's contention that the Board erred by instituting review on fewer than all of the claims of which petitioner sought inter partes review. As in *Cuozzo*, petitioner assails the USPTO's institution decision on the ground that it violated provisions of the AIA. See *id.* at 2139-2142. Petitioner previously argued that judicial review is available

because petitioner appealed from the Board's final decision, not directly from the institution decision. But the Court in *Cuozzo* squarely rejected that argument. *Id.* at 2140.

B. In any event, nothing in the AIA precludes the USPTO from instituting inter partes review of some of the patent claims challenged in a petition while denying review of others.

1. a. Consistent with the Patent Act's general scheme, under which questions of patent validity are typically resolved on a claim-by-claim basis, the AIA's text and structure demonstrate that the USPTO may institute review as to fewer than all of the claims of which review is sought. The provisions that govern the agency's institution determinations confer broad discretion on the agency and do not cast doubt on the USPTO's partial-institution practice. The AIA prohibits the USPTO from instituting any review unless it finds a reasonable likelihood that at least one claim will be held invalid. 35 U.S.C. 314(a). But Section 314(a) imposes "no mandate to institute review," *Cuozzo*, 136 S. Ct. at 2140, and no other provision requires the USPTO to institute review of all challenged claims if the agency agrees to review any of them. The provisions that govern the USPTO's institution decisions contemplate that the agency may engage in claim-by-claim analysis, and they would make little sense if claim-specific determinations were forbidden. The end product of inter partes review—the Board's final written decision, which carries estoppel consequences for the parties—is similarly claim-specific.

Neither of the AIA provisions that petitioner cites to support its contrary position (35 U.S.C. 311(b) and 318(a)) forbids partial institution. Section 311(b) limits inter partes review to certain kinds of challenges to

patentability, but it does not require review of every claim challenged in a petition. Section 318(a) is similarly inapposite. That provision, which governs the content of final decisions where the USPTO has agreed to institute review, would be a peculiar place for Congress to impose restrictions on institution. In any event, petitioner misreads that provision. Section 318(a) requires that the Board's final decision address every claim "challenged by the petitioner." 35 U.S.C. 318(a). Properly read in its statutory context, that language does not refer to every claim of which review was originally requested, but only to those claims that were challenged within the instituted review proceeding, *i.e.*, those claims the USPTO agreed to review. If Congress had intended to require the USPTO to address in its final decision (and thus to institute review on) every claim "challenged in the petition," it could easily have said so; indeed, it used that very language elsewhere in the AIA, 35 U.S.C. 314(a).

b. Construing the AIA to permit the USPTO to institute review as to fewer than all claims challenged in the petition furthers Congress's objectives, whereas petitioner's approach would undermine them. Congress designed inter partes review to improve patent quality and to do so efficiently. Permitting partial institution advances both objectives, by allowing the USPTO to focus on claims most likely to be found unpatentable while avoiding unnecessary use of its resources on claims that have no reasonable likelihood of being cancelled. Petitioner's approach would thwart both aims.

Petitioner contends that partial institution is inconsistent with a purported congressional purpose of making inter partes review a complete substitute for litigation. That argument reflects a misunderstanding of

Congress's aims. Inter partes review was not designed to displace litigation altogether. Congress authorized such review for only two kinds of challenges to patentability (obviousness and lack of novelty), not for every ground of unpatentability that might be asserted in court. As other features of the statute reflect, inter partes review was designed not merely to resolve private disputes, but to provide an administrative mechanism for the USPTO to correct patent claims that were erroneously issued.

2. Whether or not the USPTO's interpretation of the AIA as permitting partial institution reflects the only permissible reading of the statute, that position is reasonable and therefore entitled to deference. The AIA authorizes the USPTO to adopt regulations "establishing and governing inter partes review." 35 U.S.C. 316(a)(4). The agency's view that partial institution is permissible is reflected in a published regulation issued after notice-and-comment rulemaking. Petitioner's broad attacks on deference to administrative agencies' statutory interpretations are particularly misplaced because the regulation at issue here is premised on an explicit statutory grant of rulemaking authority, not on an inference from statutory ambiguity.

II. Petitioner briefly argues that, even if the AIA did not require the USPTO to institute review on every claim challenged in the petition for inter partes review, the Board was still required to address every claim in its final decision. That contention has no basis in the AIA's text or in common sense, and it would produce highly anomalous results.

ARGUMENT

I. THE USPTO PROPERLY DETERMINES ON A CLAIM-BY-CLAIM BASIS WHETHER TO INSTITUTE INTER PARTES REVIEW

Although petitioner ostensibly challenges the scope of the Board's final written decision, its primary argument is that the USPTO erred by instituting inter partes review on fewer than all of the claims as to which review was sought. That contention is not properly before this Court because the AIA precludes judicial review of the USPTO's institution decisions.

In any event, petitioner's argument lacks merit. The AIA provisions that address the institution of inter partes review (35 U.S.C. 311-315) confer very broad discretion on the agency, and they contain no language that even arguably requires the all-or-nothing approach that petitioner advocates. Petitioner relies primarily on the directive in 35 U.S.C. 318(a) that the Board "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." But Section 318(a) does not address the USPTO's institution decisions; it addresses the Board's final disposition of an inter partes review after the Board's consideration of the merits is complete. In light of its place within the statutory scheme, the directive on which petitioner relies is best read to refer to the patent claims that the petitioner challenges *within the instituted review proceeding*—*i.e.*, the claims that the USPTO had previously agreed to review—rather than to all claims that were challenged in the petition.

The USPTO therefore has correctly construed the AIA to permit partial institution. At a minimum, the

agency's interpretation, codified in a published regulation issued after notice-and-comment rulemaking, is reasonable and warrants deference.

A. The AIA Forecloses Judicial Review Of Petitioner's Challenge To The USPTO's Decision Not To Institute Review Of Certain Claims

Petitioner's primary argument is that, when a petitioner seeks inter partes review of more than one patent claim, the USPTO must either grant review of all the challenged claims or deny review altogether. Thus, rather than arguing that the Board misjudged the patentability of the claims it had agreed to review, petitioner contends that the Board should have reviewed additional claims. That argument is not properly before the Court because the AIA expressly precludes judicial review of the USPTO's institution decisions. See 35 U.S.C. 314(d); *Cuozzo Speed Techs., LLC* v. *Lee*, 136 S. Ct. 2131 (2016) (*Cuozzo*).

1. Section 314(d) states that the "determination by the [USPTO] whether to institute an inter partes review under this section shall be final and nonappealable." 35 U.S.C. 314(d). This Court recently confirmed that, at least in general, a "contention that the [USPTO] unlawfully initiated its agency review is not appealable." *Cuozzo*, 136 S. Ct. at 2139. This bar applies both when a party seeks immediate judicial review of the USPTO's institution decision and in any later appeal from the Board's final written decision on the merits. See *id.* at 2140.

Section 314(d)'s purpose and history confirm the natural import of its text. See *Cuozzo*, 136 S. Ct. at 2139-2140. Allowing review of the USPTO's decisions whether to institute inter partes review "would under-

cut one important congressional objective, namely, giving the [agency] significant power to revisit and revise earlier patent grants." *Ibid.* The *Cuozzo* Court

> doubt[ed] that Congress would have granted the [USPTO] this authority, including, for example, the ability to continue proceedings even after the original petitioner settles and drops out, [35 U.S.C.] 317(a), if it had thought that the agency's final decision could be unwound under some minor statutory technicality related to its preliminary decision to institute inter partes review.

Id. at 2140. The fact that prior statutes establishing other mechanisms for administrative review of existing patent claims have similarly foreclosed review of institution decisions "reinforces [this] conclusion." *Ibid.*; see 35 U.S.C. 303(c) (1994) (ex parte reexamination); 35 U.S.C. 312(c) (2000) (inter partes reexamination); cf. 35 U.S.C. 324(e) (post-grant review).

By supplying "clear and convincing indications * * * that Congress intended to bar review" of the USPTO's institution decisions, the statutory text and context "overcome" a background "presumption in favor of judicial review." *Cuozzo*, 136 S. Ct. at 2140 (citations and internal quotation marks omitted); see Pet. Br. 37 (acknowledging that USPTO's institution decision is "not ordinarily reviewable"). The Court in *Cuozzo* held that Section 314(d) "bars judicial review" of the agency's determination whether to institute inter partes review, at least "where the grounds for attacking the decision to institute inter partes review consist of questions that are closely tied to the application and interpretation of statutes related to the [USPTO's] decision to initiate inter partes review." 136 S. Ct. at 2141-2142. The Court reserved judgment on the possibility that judicial

review might be available for certain other kinds of challenges to the USPTO's institution decisions, such as "appeals that implicate constitutional questions" or "depend on other less closely related statutes." *Id.* at 2141 (citing *Johnson* v. *Robison*, 415 U.S. 361, 367 (1974) (judicial-review bar did not preclude review of constitutional challenges), and *Traynor* v. *Turnage*, 485 U.S. 535, 544-545 (1988) (same judicial-review bar did not preclude review of decisions made under different statutes enacted at different times)); see *id.* at 2141-2142 (suggesting that review might be available if a party asserts a "due process problem" or the USPTO grants review on a ground of unpatentability not authorized by the AIA). Whatever the "precise effect of [Section] 314(d)" on such challenges, however, the statute unambiguously bars review of attacks on the USPTO's interpretation and application of the AIA's provisions that govern institution of inter partes review. *Id.* at 2141.

The patent owner in *Cuozzo* argued that the Board had erred by instituting review as to two of the contested patent claims because the party seeking review had not articulated its challenges to those claims with sufficient particularity, as required by Section 312(a)(3). 136 S. Ct. at 2139. This Court held that Section 314(d) barred review of that "ordinary dispute about the application of certain relevant patent statutes," which lay at the core of Section 314(d)'s bar. *Ibid.* The Court explained that "the 'No Appeal' provision's language must, at the least, forbid an appeal that attacks a 'determination . . . whether to institute' review by raising this kind of legal question and little more." *Ibid.* (quoting 35 U.S.C. 314(d)).

The same rule applies to challenges to the USPTO's decision *not* to institute inter partes review of a particular claim or of an alleged ground of unpatentability

that a petitioner asks the agency to address. By its terms, Section 314(d)'s judicial-review bar applies to decisions "*whether* to institute" inter partes review. 35 U.S.C. 314(d) (emphasis added). And because Section 314 does not impose a "mandate to institute review" in any circumstance, there is no binding directive to do so for a court to enforce. *Cuozzo*, 136 S. Ct. at 2140; see *ibid.* (USPTO's "decision to deny a petition is a matter committed to the [USPTO's] discretion" within the meaning of the Administrative Procedure Act (APA), 5 U.S.C. 701(a)(2)). As applied to denials of inter partes review, Section 314(d) makes explicit and amplifies the "tradition of nonreviewability" of agencies' discretionary "refusals to reconsider" their own prior rulings "for material error," which 5 U.S.C. 701(a)(2) "was meant to preserve." *ICC* v. *Brotherhood of Locomotive Eng'rs*, 482 U.S. 270, 282 (1987).

Cuozzo also makes clear that Section 314(d) applies even when the appellant does not dispute that some form of inter partes review was permissible but challenges the *scope* of the review that the USPTO has decided to institute. In *Cuozzo*, the Board instituted an inter partes review with respect to claims 10, 14, and 17 of the challenged patent. 136 S. Ct. at 2138. Cuozzo argued in the Federal Circuit that the agency had "improperly instituted inter partes review, *at least in respect to claims 10 and 14*, because" the party seeking inter partes review had not articulated its challenges to those claims with sufficient particularity. *Id.* at 2139 (emphasis added). The Court agreed with the Federal Circuit that this challenge was unreviewable, see *id.* at 2139-2142, even though Cuozzo did not contest the agency's decision to institute review of claim 17. Simi-

larly here, Section 314(d) bars judicial review of petitioner's contention that the USPTO, having decided to review some of the challenged patent claims, was required to review the other challenged claims as well.

2. Petitioner's challenge to the USPTO's decision to "institute an inter partes review that is limited to fewer patent claims than [were] challenged in the petition" (Pet. Br. 19) falls squarely within Section 314(d)'s appeal bar. The basis for petitioner's appeal is "closely tied to the application and interpretation of statutes related to the [USPTO's] decision to initiate inter partes review." *Cuozzo*, 136 S. Ct. at 2141. Petitioner principally contends (Br. 17-32) that the USPTO's partial-institution practice is inconsistent with the AIA's requirement that the Board's final decision must address "any patent claim challenged by the petitioner." 35 U.S.C. 318(a). That type of challenge is clearly foreclosed by Section 314(d). See *Cuozzo*, 136 S. Ct. at 2139-2142.

As in *Cuozzo*, the Court need not decide whether or how Section 314(d) applies when an appellant's challenge to a USPTO institution decision is not "ground[ed] * * * in a statute closely related to th[e] decision to institute inter partes review." *Cuozzo*, 136 S. Ct. at 2141-2142. Petitioner's challenge does not "implicate" any "constitutional questions," "depend on other less closely related statutes" removed from the AIA, or "present other questions of interpretation that reach, in terms of scope and impact, well beyond [Section 314]." *Id.* at 2141. Petitioner does not contend, for example, that the all-or-nothing institution procedure it advocates is constitutionally compelled or that the USPTO granted review based on a ground other than the authorized grounds of obviousness or lack of novelty. Cf. *id.* at 2141-2142; 35 U.S.C. 311(b). As in *Cuozzo*, petitioner's argument

rests squarely on its reading of the AIA's provisions addressing inter partes review.

3. In its opening brief, petitioner does not address Section 314(d)'s application to this case. In the court of appeals and in its petition-stage reply brief in this Court, petitioner contended that Section 314(d) does not bar review because petitioner is challenging the Board's final written decision, and 35 U.S.C. 319 permits appeals from such decisions. Cert. Reply Br. 1-2; Pet. C.A. Resp. & Reply Br. 57-59. The Court in *Cuozzo* squarely held, however, that Section 314(d)'s bar on judicial review of institution decisions is not limited to interlocutory appeals, but extends to any appeal from the Board's final merits decision. See 136 S. Ct. at 2140. Petitioner attacks (Br. 26) the USPTO's "partial-institution practice," see *id.* at 19; see also Pet. 13-15, 18-20, and it contends that the agency violated the AIA by instituting review of some but not all of the claims that were challenged in the petition, see, *e.g.*, Pet. Br. 28-32. What matters here, as in *Cuozzo*, is that petitioner's primary argument is in substance a challenge to the agency's institution decision, rather than to the Board's subsequent analysis of the patentability of the claims it had agreed to review.[3]

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[3] Petitioner briefly contends that, even if the USPTO acted lawfully by instituting inter partes review of only some of the challenged claims, Section 318(a) still required the agency to "address all, not just some, of th[e] challenged claims" in its "final written decision." Pet. Br. 36. That distinct contention does not call into question the legality of the USPTO's institution decision, and it therefore is not insulated from judicial review by Section 314(d); but it is meritless for reasons discussed below. See Part II, *infra*.

B. The AIA Authorizes The USPTO To Institute Review As To A Subset Of The Claims Challenged In A Petition

If the Court reaches the issue, it should uphold the USPTO's authority to institute inter partes review on a claim-by-claim basis. The agency regulation codifying that position reflects by far the best reading of the AIA, and at the least it reflects a permissible construction that is entitled to deference.

1. The USPTO's conclusion that it may institute inter partes review on a claim-by-claim basis reflects by far the best interpretation of the AIA

Patents frequently contain multiple claims of varying breadth, and questions concerning the validity of contested patents are generally resolved on a claim-by-claim basis. Thus, in an infringement suit, "[e]ach claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims," 35 U.S.C. 282, and a patentee may continue to enforce valid claims of a patent even after other claims have been invalidated, see 35 U.S.C. 288. Nothing in the AIA suggests that the USPTO must use a fundamentally different all-or-nothing approach in determining whether to institute inter partes review. To the contrary, the AIA's text, structure, and purposes strongly support the USPTO's view that partial institution is permissible.

a. The AIA's text and structure support the USPTO's conclusion that the decision whether to institute inter partes review may be made on a claim-by-claim basis

i. The text and structure of the AIA demonstrate that the USPTO may institute review of a subset of the claims identified in a petition. See *Synopsys, Inc.* v.

Mentor Graphics Corp., 814 F.3d 1309, 1315 (Fed. Cir. 2016) ("[T]he statute is quite clear that the [USPTO] can choose whether to institute inter partes review on a claim-by-claim basis."); Pet. App. 18a-21a. Three aspects of the AIA support the USPTO's interpretation.

First, the AIA provisions that authorize the USPTO to institute inter partes review place no restriction on the scope of that review once the USPTO determines that the statutory prerequisites are satisfied. The AIA permits parties to request inter partes review by filing a petition with the USPTO, and it empowers the agency to institute review if it finds that certain criteria are met. 35 U.S.C. 311-315. Section 311 addresses who may file a petition (any "person who is not the owner of [the] patent"); when it may be filed (after the later of nine months after patent issuance or termination of post-grant review); and what grounds of invalidity the petition may assert (lack of novelty under Section 102, or obviousness under Section 103). 35 U.S.C. 311.[4] Section 312 prescribes the required contents of a petition and precludes a petition from being "considered" unless it includes the required information (and is accompanied by the required fees and supporting documents). 35 U.S.C. 312(a). Section 313 permits the patent owner to file a preliminary response. 35 U.S.C. 313.

Section 314, entitled "Institution of inter partes review," governs the USPTO's adjudication of petitions.

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[4] Section 315 places additional limitations on who may seek inter partes review and when. See 35 U.S.C. 315(a)(1) (no review may be instituted if petitioner has already commenced a civil action challenging a claim of the same patent); 35 U.S.C. 315(b) (no review may be instituted if the petitioner, real party in interest, or privy of the petitioner was served with a complaint alleging infringement of the patent more than one year earlier).

35 U.S.C. 314. Section 314(b) directs the USPTO to "determine whether to institute an inter partes review under this chapter pursuant to a petition filed under [S]ection 311 within 3 months after" the filing of a preliminary response or (if none is filed) the deadline for filing one. 35 U.S.C. 314(b). The agency must notify the parties and the public of its decision. 35 U.S.C. 314(c).

Aside from the AIA's procedural requirements and limitations on the types of patentability challenges that a petitioner may assert, Section 314(a) establishes the only limitation on the USPTO's discretion whether to institute inter partes review. That provision states that the agency "may not authorize an inter partes review to be instituted unless [it] determines," based on the petition and any preliminary response, "that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. 314(a). Section 314(a) thus *prohibits* the USPTO from instituting inter partes review if the agency finds that the petitioner is not likely to succeed with respect to any of the challenged claims, but it imposes "no *mandate* to institute review" in any circumstance, *Cuozzo*, 136 S. Ct. at 2140 (emphasis added). Rather, "the agency's decision to deny a petition is a matter committed to the [USPTO's] discretion." *Ibid.* As petitioner recognizes, the agency has "discretion to deny institution entirely," Pet. Br. 39, even if it finds that the petitioner is reasonably likely to establish the invalidity of at least one challenged claim. Nothing in Section 314 suggests that the USPTO's decision to institute inter partes review with respect to some claims triggers a duty to review other claims as well.

Petitioner's observation (Br. 19) that Section 314(a) does not "explicitly" authorize partial institution is

beside the point. Congress vested the USPTO with broad discretion to decide whether to institute review, subject to specific, enumerated limitations. Under those circumstances, the absence of any explicit limitation of the sort that petitioner advocates is decisive.

It would be particularly anomalous to infer, based on Congress's failure to address specifically the propriety of partial institution, that the USPTO must institute inter partes review on all challenged claims or on none. Petitioner identifies no analogous context in which a court or agency engaged in discretionary review must employ that all-or-nothing approach. This Court and the courts of appeals, for example, may decide on a question-by-question basis whether to grant certiorari or rehearing en banc, respectively, despite the absence of any explicit authorization to use that approach. See 28 U.S.C. 1254(1); Fed. R. App. P. 35(a). Likewise, no specific authorization was necessary for the USPTO to stop short of the outer limit of its power and review only some challenged claims, even though the AIA permitted it to review them all. Petitioner does not appear to dispute that the USPTO may review only some of the *grounds* of unpatentability that a petition asserts as to a particular claim—as the Board did here, Pet. App. 106a; see 37 C.F.R. 42.108(a) (USPTO may limit scope of review to certain grounds as well as certain claims). The agency likewise may elect to institute review as to only certain claims challenged in the petition.

Second, the AIA provisions that govern institution of inter partes review contemplate that the USPTO may conduct a claim-by-claim analysis. Section 312 requires a petition to identify "in writing and with particularity, each claim challenged, the grounds on which the chal-

lenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." 35 U.S.C. 312(a)(3). It would be odd to require the petitioner to present its challenge in that claim-specific manner if the agency could not similarly tailor its decision to institute inter partes review.

Section 314(a)'s substantive threshold for instituting review likewise presupposes that the USPTO may evaluate claims individually. By directing the agency to determine whether "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition," 35 U.S.C. 314(a), Section 314(a) requires the USPTO to assess the merits of individual claims. When the USPTO finds that a petitioner has satisfied the "reasonable likelihood" standard with respect to only one of two challenged claims, it would be contrary to the logic of that provision to forbid the agency to give effect to that finding by instituting review of one claim but not the other.

Section 314(a)'s use of the phrase "at least 1 of the claims challenged in the petition," 35 U.S.C. 314(a), confirms that the USPTO may apply the statute's reasonable-likelihood test on a claim-by-claim basis. The phrase "at least 1 claim" contemplates that the USPTO may find that *multiple* challenged claims have a reasonable likelihood of being invalidated. Section 314(a) thus assumes that, even after the agency finds that one challenged claim meets the reasonable-likelihood standard, it may proceed to consider whether other challenged claims meet that test as well.

Third, the significant, claim-specific consequences that the AIA attaches to the USPTO's institution decision at later stages of the proceeding make it unlikely that Congress intended to forbid partial institution.

Both the end product of inter partes review—the Board's final written decision on the merits—and its estoppel consequences are specific to the claims challenged. Section 318 provides that, if review is instituted (and unless the proceeding is dismissed), the Board must render a final decision "with respect to the patentability of any patent claim challenged by the petitioner." 35 U.S.C. 318(a). Section 315(e) provides that, in any future lawsuit or administrative proceeding, the petitioner will be estopped from challenging, on grounds that were or could have been raised during inter partes review, any claim as to which inter partes review was instituted. 35 U.S.C. 315(e)(1) and (2). For every claim the USPTO agrees to review, the Board (barring dismissal) thus must issue a decision on the merits that, unless overturned on appeal, will bind the parties; and the petitioner will be precluded from challenging that claim on any other grounds that were previously available. In light of those claim-specific consequences of an instituted inter partes review proceeding, it would be incongruous to put the agency to an all-or-nothing choice between reviewing every claim that the petitioner challenges or denying review altogether.

ii. Petitioner contends (Br. 18-27, 35) that two provisions of the AIA, 35 U.S.C. 311(b) and 318(a), forbid the USPTO from instituting review as to fewer than all of the claims challenged in a petition. Neither provision supports petitioner's argument.

Petitioner argues (Br. 23) that Section 311(b), entitled "SCOPE," "defines the '[S]cope' of inter partes review by reference to the claims that the 'petitioner . . . may request to cancel as unpatentable.'" See Pet. Br. 35. Petitioner misreads the provision, which identifies the types of challenges to patentability that a party

may ask the USPTO to review. 35 U.S.C. 311(b). Section 311(b) states that "[a] petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under [35 U.S.C.] 102 or 103 and only on the basis of prior art consisting of patents or printed publications." *Ibid.* Section 311 thus limits the grounds of unpatentability that may be considered during inter partes review proceedings, but it does not speak to the question whether the USPTO may institute review with respect to a subset of the challenged claims.

Petitioner relies primarily (Br. 18-27) on Section 318(a), which states that, "[i]f an inter partes review is instituted and not dismissed under this chapter, the [Board] shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner." 35 U.S.C. 318(a). Petitioner contends that, because the Board's final decision must address "any patent claim challenged by the petitioner," *ibid.*, the USPTO must address in its final decision—and therefore must institute inter partes review of—every claim "challenged in the petition," Pet. Br. 19. That is incorrect.

The USPTO's decision whether to institute review is governed by Sections 311-315. Those provisions are followed by Section 316 ("Conduct of inter partes review") and Section 317 ("Settlement"). Section 318(a) does not address the decision whether to institute review, but rather applies "[i]f an inter partes review is instituted and not dismissed." 35 U.S.C. 318(a). If Congress had wished to forbid partial institution, Section 318(a)'s language addressing the steps the Board must take *after* conducting its merits inquiry would be a highly oblique way to signal that intention. "Congress * * * does not

alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes." *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457, 468 (2001). If Congress had wished to restrict the USPTO's otherwise-broad discretion over institution decisions by requiring the all-or-nothing choice that petitioner advocates, Section 314 would have been a far more natural place to put that directive. See *Cuozzo*, 136 S. Ct. at 2140 (citing Section 314(a) for the proposition that there is "no mandate to institute review").

In any event, petitioner's interpretation of Section 318(a) fails on its own terms. Within Section 318(a), the phrase "any patent claim challenged by the petitioner" (35 U.S.C. 318(a)) is most naturally read to refer to the claims that are challenged within the instituted inter partes review itself—*i.e.*, the claims as to which the USPTO previously instituted review. Section 318(a)'s opening clause—"If an inter partes review is instituted and not dismissed under this chapter," *ibid.*—makes clear that the Board's duty to issue a final written decision is contingent on, and thus bounded by, the USPTO's initial determination to institute review under Section 314. Because Section 318(a) addresses the final disposition of an inter partes review whose institution is governed by a different statutory provision, the phrase "any patent claim challenged by the petitioner" is properly understood to refer not to all claims of which review was originally requested in the petition, but only to those claims the USPTO agreed to review and did review. Petitioner's observation that Section 318(a) uses mandatory language, providing that the Board "shall issue a final written decision with respect to" every instituted claim, misses the point. Pet. Br. 20

(emphasis omitted) (quoting 35 U.S.C. 318(a)). The only claims the Board's final decision "shall" address are those the agency agreed to review.

That understanding accords with ordinary usage. Parties seeking various forms of discretionary appellate review—whether parties petitioning for a writ of certiorari or for rehearing en banc, p. 27, *supra*, or an individual challenging the denial of habeas corpus who must obtain a certificate of appealability, 28 U.S.C. 2253(c)—must obtain a court's permission to litigate the merits. When the court agrees to review some but not all of the rulings a party asks it to revisit, it is natural to refer to the rulings that the reviewing court agreed to consider as the ones "challenged by the petitioner" in the merits-stage proceedings. So too here, in the discretionary-review context that Section 318(a) addresses, that phrase denotes the claims that the USPTO agreed to review.

Other language in Section 318(a) reinforces this reading. Section 318(a) directs the Board to address not only "any patent claim challenged by the petitioner," but also "any new claim added under [S]ection 316(d)," 35 U.S.C. 318(a). Section 316(d) authorizes new claims to be substituted for existing claims after the petition is filed. See 35 U.S.C. 316(d)(1)(B). The fact that the final written decision may encompass claims that did not exist when the petition was filed reinforces the conclusion that the claims in the petition are not the touchstone.

If Congress had intended to require the Board's final written decision to address every claim "challenged in the petition," Pet. Br. 19, it easily could have said so. Congress used that very language in Section 314(a), which prohibits the USPTO from instituting review unless the challenger is reasonably likely to prevail on "at least 1 of the claims challenged in the petition."

35 U.S.C. 314(a). Section 312 similarly provides that a petition for inter partes review will be considered only if "the petition identifies * * * each claim challenged." 35 U.S.C. 312(a)(3); see Pet. Br. 23. Instead of referring to claims challenged or identified in the petition, Section 318(a) refers to "any patent claim challenged by the petitioner." 35 U.S.C. 318(a).

Congress's choice of different language in nearby provisions of the same statute is presumed to be deliberate. See *Russello* v. *United States*, 464 U.S. 16, 23 (1983). Courts generally should "refrain from concluding" that "differing language in the two subsections has the same meaning in each" and should "not presume to ascribe [such a] difference to a simple mistake in draftsmanship." *Ibid.*; see, *e.g.*, *Department of Homeland Sec.* v. *MacLean*, 135 S. Ct. 913, 919 (2015). Congress's use of "a different phrase when describing claims raised in the petition for inter partes review in [Section] 314(a) and claims on which inter partes review has been instituted in [Section] 318(a)" undermines petitioner's contention that the scope of the two provisions is identical. *Synopsys*, 814 F.3d at 1314-1315; see Pet. App. 21a. Petitioner offers no persuasive explanation of why Congress would have used different text to mean the same thing in Sections 314(a) and 318(a), whereas on the agency's view the difference in language makes perfect sense given the different contexts they are addressing.[5]

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[5] Petitioner speculates in passing (Br. 25) that Section 318(a) refers to claims challenged "by the petitioner" to emphasize that the petitioner controls the scope of the review by crafting the petition, but that cannot explain why Congress chose "by the petitioner" instead of "in the petition."

b. Permitting partial institution furthers Congress's purposes

"Statutory construction * * * is a holistic endeavor," and "[a] provision that may seem ambiguous in isolation" may be "clarified by the remainder of the statutory scheme," as when "only one of the permissible meanings produces a substantive effect that is compatible with the rest of the law." *United Sav. Ass'n of Tex.* v. *Timbers of Inwood Forest Assocs., Ltd.*, 484 U.S. 365, 371 (1988). Construing the AIA to permit partial institution directly advances Congress's objectives in establishing inter partes review, while petitioner's contrary approach would disserve those purposes.

i. The AIA gives the USPTO "significant power to revisit and revise earlier patent grants" in order to "improve patent quality and restore confidence in the presumption of validity that comes with issued patents." *Cuozzo*, 136 S. Ct. at 2139-2140 (quoting House Report 48). Congress also intended the new administrative-review procedures to provide an "*efficient* system for challenging patents that should not have issued." *Id.* at 2144 (quoting House Report 39-40) (emphasis added). The AIA imposes strict timelines on the USPTO's conduct of inter partes review. The agency must decide within three months whether to institute review, 35 U.S.C. 314(b), and if it institutes review, it generally must complete the review within one year (with at most one six-month extension), 35 U.S.C. 316(a)(11). Congress also instructed the USPTO that, in adopting regulations to govern inter partes review, the agency must consider (*inter alia*) "the efficient administration of the [USPTO], and the ability of the [USPTO] to timely complete proceedings instituted under this chapter." 35 U.S.C. 316(b).

Construing the AIA to permit partial institution furthers both of those aims. Limiting an inter partes review proceeding to claims (and grounds) on which the USPTO determines the challenger has a reasonable likelihood of success focuses the agency's resources on matters where review will most improve patent quality —*i.e.*, claims most likely to be invalidated. And by "streamlin[ing] the proceeding," partial institution "aids in the efficient operation of the [USPTO] and the ability of the [USPTO] to complete the proceeding within the one-year timeframe." 2012 Regulations, 77 Fed. Reg. at 48,703. For every claim the USPTO agrees to review, the agency (and the parties) must invest considerable time and resources construing the claim, receiving and weighing evidence (often including expert testimony), and issuing a final written decision. Allowing the USPTO to focus its resources on claims it believes may be invalid helps to minimize unnecessary burdens.

Petitioner's contrary position would undermine both objectives. Petitioner's approach would put the USPTO to an all-or-nothing choice between (A) granting review on every claim the petitioner chose to challenge, and (B) denying review altogether. Neither alternative advances Congress's aims. Granting review of claims that the agency believes have no reasonable likelihood of being invalidated would do little to improve patent quality or restore confidence in the patent system, and it would force the USPTO and the parties to spend time and energy on claims that are unlikely to be affected. But denying review of claims for which the petitioner has satisfied the "reasonable likelihood" standard, simply to avoid the waste of resources the agency believes would attend review of *other* challenged claims,

would prevent inter partes review from improving patent quality in the manner Congress intended.

Petitioner argues (Br. 37-38) that the USPTO's partial-institution approach has not "actually achieved" maximal efficiency because the agency has chosen to issue "written decisions" explaining why it declined to grant review of some challenged claims. Petitioner asserts (*ibid.*) that the USPTO could issue "a simple thumbs-up 'notice' to the parties, and eventually in the *Federal Register*, that an inter partes review has been instituted and will commence on a certain date." But Congress directed the USPTO rather than the courts to decide how best to achieve efficiency and to organize its own procedures. See 35 U.S.C. 2(b)(2), 316(a)(2) and (4). Exercising that authority, the USPTO has encouraged the Board to explain its decisions to institute review on some challenged claims but not on others because the USPTO determined that the benefits of doing so outweigh the costs. See 2012 Trial Practice Guide, 77 Fed. Reg. at 48,765. The USPTO has reasonably determined that the Board, the parties, and future litigants all may benefit from the analysis set forth in the Board's institution-phase rulings. Institution decisions also provide a valuable opportunity to streamline the proceedings by clarifying other issues, such as restricting the instituted proceeding to the most persuasive prior art, as the Board did in this case. See Pet. App. 127a. In any event, petitioner's contention that the USPTO could achieve even greater efficiency by offering less detailed explanations for its institution decisions provides no logical basis for disapproving the agency's partial-institution practice.

ii. Petitioner argues (Br. 28) that partial institution hinders a different purported congressional objective

"to have patentability determinations as to a particular patent adjudicated efficiently in a single proceeding, either before the Board or in court." See Pet. Br. 28-32. But inter partes review is just one of several mechanisms —which also include ex parte reexamination, post-grant review, and covered business-method review—through which the USPTO reconsiders existing patents. See pp. 4-7, *supra*. Congress did not expect or intend that those mechanisms, either individually or collectively, would wholly displace litigation as a means of resolving disputes about patent validity. See, *e.g.*, House Report 48 ("The post-grant review procedure is not intended, however, to inhibit patent owners from pursuing the various avenues of enforcement of their rights under a patent, and the amendment makes clear that the filing or institution of a post-grant review proceeding does not limit a patent owner from commencing such actions.").

That is especially true of inter partes review, which is limited in scope. Unlike some other forms of administrative review of existing patent claims, inter partes review is limited to disputes over novelty and obviousness under 35 U.S.C. 102 and 103 (2012 & Supp. III 2015). See 35 U.S.C. 311(b); cf. 35 U.S.C. 321(b) (post-grant review may encompass challenges based on any condition of patentability set forth in 35 U.S.C. 100-212 (2012 & Supp. III 2015)). Congress thus excluded from inter partes review various other grounds for contesting validity or enforceability—*e.g.*, unpatentable subject matter, 35 U.S.C. 101; arguments that the specification lacks a sufficient written description of the invention, fails to enable it, or fails to provide the best mode for carrying out the invention, 35 U.S.C. 112(a); the defense of inequitable conduct, see *Therasense, Inc.* v. *Becton, Dickinson & Co.*, 649 F.3d 1276, 1285 (Fed. Cir.

2011); and anticipation or obviousness based on prior art other than patents or printed publications, such as other evidence that the invention was on sale or in public use prior to the date of invention or filing, 35 U.S.C. 102(a)—that are commonly asserted as defenses in district-court infringement litigation. Even under petitioner's approach, moreover, inter partes review and the preclusive effect of a final decision would be limited to the particular patent claims of which the petitioner sought review. See 35 U.S.C. 315(e), 318(a). Congress therefore could not have expected that inter partes review would obviate the need for federal-court litigation of patent-validity issues.

Inter partes review differs from district-court litigation in other respects as well. While federal-court lawsuits are subject to Article III's justiciability requirements, any "person who is not the owner" of the patent may file a petition for inter partes review. 35 U.S.C. 311. Consistent with the nature of inter partes review as a mechanism for the agency to revisit its own prior determinations, "[p]arties that initiate the proceeding need not have a concrete stake in the outcome" to seek review, *Cuozzo*, 136 S. Ct. at 2143-2144, and the USPTO may "continue to conduct an inter partes review even after the adverse party has settled," *id.* at 2144; see 35 U.S.C. 317. These and other aspects of the statutory scheme show that "the purpose of [an inter partes review] proceeding is not quite the same as the purpose of district court litigation." *Cuozzo*, 136 S. Ct. at 2144. "[I]n addition to helping resolve concrete patent-related disputes among parties, inter partes review helps protect the public's paramount interest in seeing that patent monopolies . . . are kept within their legitimate scope" by enabling the agency to review existing

claims and cancel those that "should not have issued." *Ibid.* (citations and internal quotation marks omitted).

Even when both inter partes review and district-court litigation are commenced regarding the same patent, the USPTO's partial-institution approach may enhance the efficiency of district-court litigation. The USPTO's announcement that certain claims will not be reviewed can assist courts in planning their own proceedings. If the agency institutes review and the Board upholds even one claim of a patent, its decision may prompt the parties to reach a settlement as to other claims, because infringement of one valid claim can give rise to injunctive relief and damages, 35 U.S.C. 283, 284. Petitioner suggests (Br. 29) that, if the USPTO institutes review on an unduly small subset of the claims for which review is sought, the Board's final decision may not produce sufficient clarity for the process to be worthwhile. But if a challenger is dissatisfied with the scope of the review the Board institutes, the AIA permits the parties jointly to terminate the proceedings (before a final written decision is issued) without estoppel attaching. 35 U.S.C. 317(a).

By contrast, petitioner's all-or-nothing approach could exacerbate interference with district-court litigation and invite gamesmanship. That approach could give a defendant sued for infringement of one relatively strong claim in a patent an incentive to request inter partes review of that claim along with other, more vulnerable claims, in an effort to delay or disrupt the pending litigation. On petitioner's view, unless the USPTO forgoes review altogether—in which case the agency would miss an opportunity to review the vulnerable claims—its only option would be to institute review as to the strong claim (which was asserted in the litigation)

and the more vulnerable claims (which were not). If the USPTO does institute review on all of the challenged claims, the court overseeing the infringement suit might stay those proceedings pending the agency's final decision; although not required by the AIA, courts often stay litigation pending completion of inter partes review, as the district court did in the infringement litigation between petitioner and the patent owner here (respondent ComplementSoft), see Pet. Br. 29. If that tactic succeeds, an alleged infringer could effectively delay judgment in the infringement litigation—and in turn injunctive relief and damages—for many months.

In any event, a decision of this Court recognizing that partial institution is *permissible* would not *preclude* the USPTO from instituting review with respect to all challenged claims in circumstances where the agency views that course as desirable. The disputed question in this case is whether the agency *must* follow petitioner's all-or-nothing approach even when it believes that more limited review would be a better use of its own and the parties' resources. Petitioner offers no sound reason to believe that overriding the agency's judgment in those circumstances would produce more efficient results overall. And, given the broad discretion that Congress conferred on the USPTO with respect to institution decisions, there is no reason to suppose that Congress intended to mandate petitioner's all-or-nothing approach.

2. The USPTO's regulation construing the AIA to permit partial institution is entitled to deference

For the reasons stated above, the AIA is best read to permit the USPTO to institute inter partes review with respect to a subset of the claims of which review is sought. The Court need not decide, however, whether

that interpretation is the best or only plausible construction. The USPTO's interpretation, adopted after notice-and-comment rulemaking, is at a minimum reasonable and is entitled to deference. *Chevron U.S.A. Inc.* v. *Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843-844 (1984); see *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208, 218 & n.4 (2009) (agency's statutory interpretation in regulation "governs if it is a reasonable interpretation of the statute—not necessarily the only possible interpretation, nor even the interpretation deemed *most* reasonable by the courts").

a. The AIA states that the USPTO "shall prescribe" regulations concerning a number of topics, including rules "establishing and governing inter partes review" and rules "setting forth the standards for the showing of sufficient grounds to institute a review under [S]ection 314(a)." 35 U.S.C. 316(a)(2) and (4). Congress further instructed that, in "prescribing regulations" on these and other topics, the USPTO "shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the [USPTO], and the ability of the [USPTO] to timely complete proceedings instituted under this chapter." 35 U.S.C. 316(b). After conducting a notice-and-comment rulemaking, the USPTO adopted a regulation that allows the Board to "streamline" inter partes review (2012 Regulations, 77 Fed. Reg. at 48,703) by "authoriz[ing] the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim," 37 C.F.R. 42.108(a). The agency considered and rejected a proposal to require "all challenged claims to be included in the *inter partes* review when there is a reasonable likelihood of prevail-

ing with respect to one challenged claim." 2012 Regulations, 77 Fed. Reg. at 48,702; see *id.* at 48,702-48,703. Instead, the regulation permits the Board to grant review on fewer than all challenged claims, and the preamble states that the Board "should limit the claims in the review to only those claims that meet the [reasonable-likelihood] threshold." *Id.* at 48,703.[6]

The USPTO's partial-institution regulation falls comfortably within the agency's broad rulemaking authority. The rule "establish[es] and govern[s] inter partes review." 35 U.S.C. 316(a)(4). And insofar as it permits the Board to apply Section 314(a)'s reasonable-likelihood standard on a claim-by-claim basis, the regulation also "set[s] forth the standards for the showing of sufficient grounds to institute a review under [S]ection 314(a)." 35 U.S.C. 316(a)(2); see *City of Arlington* v. *FCC*, 133 S. Ct. 1863, 1874 (2013) ("general conferral of rulemaking authority" authorizes rules "for *all* the matters the agency is charged with administering").

b. The USPTO's regulation permitting partial institution reflects at least "a reasonable interpretation of the statute." *Entergy*, 556 U.S. at 218. That approach is faithful to the AIA's text and structure, and it directly

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[6] The regulation also provides that, "[a]t any time prior to institution of *inter partes* review, the Board may deny some or all grounds for unpatentability for some or all of the challenged claims"—which constitutes "a Board decision not to institute *inter partes* review on that ground"—and that the Board shall not institute review on a particular ground "unless the Board decides that the petition supporting the ground would demonstrate that there is a reasonable likelihood that at least one of the claims challenged in the petition is unpatentable." 2012 Regulations, 77 Fed. Reg. at 48,728 (37 C.F.R. 42.108(b) and (c)). As noted, see p. 27, *supra*, petitioner does not appear to challenge the USPTO's practice of denying review on certain grounds of unpatentability raised in a petition.

furthers Congress's purposes. See Part I.B.1, *supra*. In adopting the rule, the USPTO explained both why it is "consistent with the statute" and why it is beneficial for inter partes proceedings. 2012 Regulations, 77 Fed. Reg. at 48,703. The agency noted the AIA's various provisions that contemplate claim-specific submissions, analyses, and determinations—including Section 312's requirements for petitions, Section 314's threshold for review, and Section 315's provision for "estoppel on a claim-by-claim basis." *Ibid.* The USPTO also highlighted Congress's directive to ensure the "efficient administration of the [USPTO] and the ability of the [USPTO] to complete the proceedings timely," and it explained that "streamlin[ing]" review through partial institution "aids in the efficient operation of the [USPTO] and the ability of the [USPTO] to complete the proceeding within the one-year timeframe." *Ibid.* The agency further observed that it would be "inefficient and unfair to patent owner[s] to require a full response to challenges on claims that do not meet the initial threshold." *Ibid.*

Petitioner principally contends (Br. 33-36) that the USPTO's regulation should receive no deference because the statutory text is clear. That is incorrect. Even if the AIA's text and structure could plausibly be read to support petitioner's all-or-nothing rule, the statute does not *compel* that approach. Nothing in the provisions that address the institution of inter partes review says anything to that effect. See 35 U.S.C. 311-315; see pp. 25-27, *supra*. Section 318(a) likewise does not address the scope of review the USPTO must institute, and it is best read to require only that final decisions must address the claims the USPTO has agreed to review. See pp. 30-33, *supra*. At the very

most, Section 318(a)'s directive that the USPTO's final written decision must address "any patent claim challenged by the petitioner," 35 U.S.C. 318(a), is ambiguous. Under *Chevron*, the agency's reasonable interpretation of that language—*i.e.*, that the directive applies to claims challenged within the instituted inter partes proceeding—is entitled to controlling weight.

Petitioner also asserts (Br. 39-42) that the USPTO's interpretation fails at *Chevron*'s second step. But its argument merely repeats petitioner's submission that partial institution is inconsistent with Congress's purposes. As shown above, petitioner is incorrect. See Part I.B.1.b, *supra*. At a minimum, the USPTO acted reasonably in concluding that allowing partial institution will make inter partes review a more efficient mechanism for achieving Congress's objectives.

c. Petitioner also appears to criticize *Chevron* more generally, and to contend that the USPTO's interpretations of the federal patent laws should not receive judicial deference. Pet. Br. 16, 40-41. This Court's precedents foreclose that argument. Congress has authorized the USPTO to adopt regulations governing the relevant aspects of inter partes review. See 35 U.S.C. 316(a)(2) and (4). Only two Terms ago, this Court accorded deference to another USPTO regulation that was adopted pursuant to Section 316(a)(4) and governed a different aspect of inter partes proceedings. See *Cuozzo*, 136 S. Ct. at 2142-2144.

Petitioner's principal criticism of *Chevron*, moreover, is inapposite here. Petitioner argues (Br. 40-41) that statutory ambiguity cannot properly be treated as an implicit delegation of interpretive authority that could warrant judicial deference to an agency. Whatever the merits of that criticism, it has no application

here because the USPTO adopted its partial-institution rule pursuant to an explicit grant of authority to issue regulations governing this and other aspects of inter partes proceedings. Because the AIA "contains an express and clear conferral of authority to the [USPTO] to promulgate rules governing its own proceedings," deference to the interpretation reflected in the USPTO's regulation does "not rest on" the assumption that "ambiguity in a statutory term is best construed as an implicit delegation of power to an administrative agency to determine the bounds of the law." *Cuozzo*, 136 S. Ct. at 2148 (Thomas, J., concurring) (opining that, irrespective of *Chevron*, the analysis of the USPTO's rule would be "effectively" the same under the APA, 5 U.S.C. 706(2)(A)); see *Capital Cities Cable, Inc.* v. *Crisp*, 467 U.S. 691, 699 (1984) ("Where Congress has directed an administrator to exercise his discretion, his judgments are subject to judicial review only to determine whether he has exceeded his statutory authority or acted arbitrarily." (citations omitted)). By any measure, the USPTO's regulation reflects a reasonable exercise of the agency's statutory authority to promulgate rules governing the conduct of inter partes review proceedings.

II. THE BOARD PROPERLY ISSUES FINAL WRITTEN DECISIONS ADDRESSING ONLY THOSE CLAIMS FOR WHICH THE AGENCY INSTITUTED REVIEW

As explained above, petitioner relies substantially on Section 318(a), which directs the Board at the conclusion of an inter partes review to "issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)." 35 U.S.C. 318(a); see pp. 30-33, *supra*. Petitioner construes the phrase "any

patent claim challenged by the petitioner" to encompass every patent claim that was challenged in the petition for inter partes review. Pet. Br. 18-27. Petitioner's principal contention is that, in order to issue a final written decision addressing the patentability of all such claims, the USPTO must institute review of all claims challenged in the petition if it institutes review at all. Because that argument challenges "[t]he determination by the [USPTO] whether to institute an inter partes review," 35 U.S.C. 314(d), it is not properly before this Court, see Part I.A, *supra*; and the argument lacks merit in any event, see Part I.B, *supra*.

Petitioner also briefly contends in the alternative (Br. 36) that, even if the USPTO's partial-institution practice is lawful, "the Board's final written decision must address all, not just some, of" the claims challenged in the petition, including "any claims on which inter partes review was not 'instituted.'" That argument likewise rests on petitioner's view that the phrase "any patent claim challenged by the petitioner" in Section 318(a) encompasses all patent claims challenged in the petition for inter partes review. Because that distinct contention does not call into question the legality of the agency's institution decision, Section 314(d) does not insulate it from judicial review; but the Court should reject it on the merits. See *Synopsys*, 814 F.3d at 1315 ("[T]he statute would make very little sense if it required the Board to issue final decisions addressing patent claims for which inter partes review had not been initiated.").

The precise reach of petitioner's alternative argument is unclear. Section 318(a) states that, when an inter partes review has been instituted and not dismissed, the Board "shall issue a final written decision

with respect to the patentability of any patent claim challenged by the petitioner." 35 U.S.C. 318(a). For the patent claims as to which review was previously instituted, a decision "with respect to * * * patentability" is understood to mean a bottom-line determination whether the petitioner has established the unpatentability of the reviewed claims. If Section 318(a)'s directive applied even to patent claims that the Board previously declined to review, the Board might be required to issue a final decision, with the estoppel effects described in Section 315(e), that the unreviewed claims are or are not patentable. It would be highly anomalous, however, to require the Board to issue such a decision without first analyzing those claims through the procedures that the AIA and the USPTO's rules have prescribed for the conduct of inter partes review. See *Synopsys*, 814 F.3d at 1315 (explaining that the AIA should not be read to "require the Board to issue a final determination on validity of patent claims without the benefit of" full merits briefing). That approach would also require the Federal Circuit to review fact-intensive questions of novelty and obviousness based on an administrative record that is limited to the petition for review and any preliminary response from the patent owner.

In arguing that "the Board's final written decision must address all, not just some, of" the claims challenged in the petition (Pet. Br. 36), petitioner may instead contemplate that the Board can "address" unreviewed claims in a manner that satisfies petitioner's proposed rule without announcing a bottom-line determination as to their patentability. For example, the Board might "address" unreviewed claims in its final written decision by simply noting its prior finding at the institution stage that the petitioner had not satisfied the

"reasonable likelihood" standard with respect to those claims. At least so long as it was not used to facilitate back-door judicial review of the Board's institution decisions, a requirement that could be satisfied in that manner might do little harm (indeed, the Board's final written decision in this case contained such language, see Pet. App. 73a n.2, 84a & n.3); but it would serve no useful purpose. With respect to the claims that the Board had previously declined to review, such language would not constitute a final determination as to patentability that the Federal Circuit could review on appeal.

The Court can avoid the problems that petitioner's alternative argument entails by recognizing that the phrase "any patent claim challenged by the petitioner" in Section 318(a) refers only to those patent claims that the petitioner challenges *within the instituted review*, *i.e.*, those claims whose patentability the agency previously agreed to assess. See pp. 30-33, *supra*. That approach is consistent both with Section 318(a)'s text and with its place in the statutory scheme. Petitioner concedes (Br. 27) that the USPTO need not address in its final written decision any patent claims that the agency previously decided to review but that the patent owner later voluntarily agreed to have cancelled. Although such claims were challenged in the petition for inter partes review, they are not covered by Section 318(a)'s mandate because their validity is no longer disputed within the instituted review by the time the Board issues its final written decision. *A fortiori*, the Board need not address in its final decision claims the agency never agreed to review at all.

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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APPENDIX

1. 35 U.S.C. 102 (2012 & Supp. III 2015) provides:

Conditions for patentability; novelty

(a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—

(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention; or

(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

(b) EXCEPTIONS.—

(1) DISCLOSURES MADE 1 YEAR OR LESS BEFORE THE EFFECTIVE FILING DATE OF THE CLAIMED INVENTION.—A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if—

(A) the disclosure was made by the inventor or joint inventor or by another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who

obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.

(2) DISCLOSURES APPEARING IN APPLICATIONS AND PATENTS.—A disclosure shall not be prior art to a claimed invention under subsection (a)(2) if—

(A) the subject matter disclosed was obtained directly or indirectly from the inventor or a joint inventor;

(B) the subject matter disclosed had, before such subject matter was effectively filed under subsection (a)(2), been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(C) the subject matter disclosed and the claimed invention, not later than the effective filing date of the claimed invention, were owned by the same person or subject to an obligation of assignment to the same person.

(c) COMMON OWNERSHIP UNDER JOINT RESEARCH AGREEMENTS.—Subject matter disclosed and a claimed invention shall be deemed to have been owned by the same person or subject to an obligation of assignment to the same person in applying the provisions of subsection (b)(2)(C) if—

(1) the subject matter disclosed was developed and the claimed invention was made by, or on behalf of, 1 or more parties to a joint research agreement

that was in effect on or before the effective filing date of the claimed invention;

(2) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement; and

(3) the application for patent for the claimed invention discloses or is amended to disclose the names of the parties to the joint research agreement.

(d) PATENTS AND PUBLISHED APPLICATIONS EFFECTIVE AS PRIOR ART.—For purposes of determining whether a patent or application for patent is prior art to a claimed invention under subsection (a)(2), such patent or application shall be considered to have been effectively filed, with respect to any subject matter described in the patent or application—

(1) if paragraph (2) does not apply, as of the actual filing date of the patent or the application for patent; or

(2) if the patent or application for patent is entitled to claim a right of priority under section 119, 365(a), 365(b), 386(a), or 386(b), or to claim benefit of an earlier filing date under section 120, 121, 365(c), or 386(c), based upon 1 or more prior filed applications for patent, as of the filing date of the earliest such application that describes the subject matter.

2. 35 U.S.C. 103 provides:

Conditions for patentability; non-obvious subject matter

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

3. 35 U.S.C. 282 provides:

Presumption of validity; defenses

(a) IN GENERAL.—A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

(b) DEFENSES.—The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded:

(1) Noninfringement, absence of liability for infringement or unenforceability.

(2) Invalidity of the patent or any claim in suit on any ground specified in part II as a condition for patentability.

(3) Invalidity of the patent or any claim in suit for failure to comply with—

(A) any requirement of section 112, except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable; or

(B) any requirement of section 251.

(4) Any other fact or act made a defense by this title.

(c) NOTICE OF ACTIONS; ACTIONS DURING EXTENSION OF PATENT TERM.—In an action involving the validity or infringement of a patent the party asserting invalidity or noninfringement shall give notice in the pleadings or otherwise in writing to the adverse party at least thirty days before the trial, of the country, number, date, and name of the patentee of any patent, the title, date, and page numbers of any publication to be relied upon as anticipation of the patent in suit or, except in actions in the United States Court of Federal Claims, as showing the state of the art, and the name and address of any person who may be relied upon as the prior inventor or as having prior knowledge of or as having previously used or offered for sale the invention of the patent in suit. In the absence of such notice proof of the said matters may not be made at the trial except on such terms as the court requires. Invalidity of the extension of a patent term or any portion thereof

under section 154(b) or 156 because of the material failure—

(1) by the applicant for the extension, or

(2) by the Director,

to comply with the requirements of such section shall be a defense in any action involving the infringement of a patent during the period of the extension of its term and shall be pleaded. A due diligence determination under section 156(d)(2) is not subject to review in such an action.

4. 35 U.S.C. 283 provides:

Injunction

The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.

5. 35 U.S.C. 284 provides:

Damages

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed. Increased damages under this paragraph shall not apply to provisional rights under section 154(d).

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances.

6. 35 U.S.C. 288 provides:

Action for infringement of a patent containing an invalid claim

Whenever a claim of a patent is invalid, an action may be maintained for the infringement of a claim of the patent which may be valid. The patentee shall recover no costs unless a disclaimer of the invalid claim has been entered at the Patent and Trademark Office before the commencement of the suit.

7. 35 U.S.C. 301 provides:

Citation of prior art and written statements

(a) IN GENERAL.—Any person at any time may cite to the Office in writing—

(1) prior art consisting of patents or printed publications which that person believes to have a bearing on the patentability of any claim of a particular patent; or

(2) statements of the patent owner filed in a proceeding before a Federal court or the Office in which the patent owner took a position on the scope of any claim of a particular patent.

(b) OFFICIAL FILE.—If the person citing prior art or written statements pursuant to subsection (a) explains in writing the pertinence and manner of applying the prior art or written statements to at least 1 claim of the patent, the citation of the prior art or written statements and the explanation thereof shall become a part of the official file of the patent.

(c) ADDITIONAL INFORMATION.—A party that submits a written statement pursuant to subsection (a)(2) shall include any other documents, pleadings, or evidence from the proceeding in which the statement was filed that addresses the written statement.

(d) LIMITATIONS.—A written statement submitted pursuant to subsection (a)(2), and additional information submitted pursuant to subsection (c), shall not be considered by the Office for any purpose other than to determine the proper meaning of a patent claim in a proceeding that is ordered or instituted pursuant to section 304, 314, or 324. If any such written statement or additional information is subject to an applicable protective order, such statement or information shall be redacted to exclude information that is subject to that order.

(e) CONFIDENTIALITY.—Upon the written request of the person citing prior art or written statements pursuant to subsection (a), that person's identity shall be excluded from the patent file and kept confidential.

8. 35 U.S.C. 302 provides:

Request for reexamination

Any person at any time may file a request for reexamination by the Office of any claim of a patent on the basis of any prior art cited under the provisions of section 301. The request must be in writing and must be accompanied by payment of a reexamination fee established by the Director pursuant to the provisions of section 41. The request must set forth the pertinency and manner of applying cited prior art to every claim for which reexamination is requested. Unless the requesting person is the owner of the patent, the Director promptly will send a copy of the request to the owner of record of the patent.

9. 35 U.S.C. 303 provides:

Determination of issue by Director

(a) Within three months following the filing of a request for reexamination under the provisions of section 302, the Director will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request, with or without consideration of other patents or printed publications. On his own initiative, and any time, the Director may determine whether a substantial new question of patentability is raised by patents and publications discovered by him or cited under the provisions of section 301 or 302. The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was

previously cited by or to the Office or considered by the Office.

(b) A record of the Director's determination under subsection (a) of this section will be placed in the official file of the patent, and a copy promptly will be given or mailed to the owner of record of the patent and to the person requesting reexamination, if any.

(c) A determination by the Director pursuant to subsection (a) of this section that no substantial new question of patentability has been raised will be final and nonappealable. Upon such a determination, the Director may refund a portion of the reexamination fee required under section 302.

10. 35 U.S.C. 304 provides:

Reexamination order by Director

If, in a determination made under the provisions of subsection 303(a), the Director finds that a substantial new question of patentability affecting any claim of a patent is raised, the determination will include an order for reexamination of the patent for resolution of the question. The patent owner will be given a reasonable period, not less than two months from the date a copy of the determination is given or mailed to him, within which he may file a statement on such question, including any amendment to his patent and new claim or claims he may wish to propose, for consideration in the reexamination. If the patent owner files such a statement, he promptly will serve a copy of it on the person who has requested reexamination under the provisions

of section 302. Within a period of two months from the date of service, that person may file and have considered in the reexamination a reply to any statement filed by the patent owner. That person promptly will serve on the patent owner a copy of any reply filed.

11. 35 U.S.C. 311 provides:

Inter partes review

(a) IN GENERAL.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute an inter partes review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to be reasonable, considering the aggregate costs of the review.

(b) SCOPE.—A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent only on a ground that could be raised under section 102 or 103 and only on the basis of prior art consisting of patents or printed publications.

(c) FILING DEADLINE.—A petition for inter partes review shall be filed after the later of either—

(1) the date that is 9 months after the grant of a patent; or

(2) if a post-grant review is instituted under chapter 32, the date of the termination of such post-grant review.

12. 35 U.S.C. 312 provides:

Petitions

(a) REQUIREMENTS OF PETITION.—A petition filed under section 311 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 311;

(2) the petition identifies all real parties in interest;

(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) PUBLIC AVAILABILITY.—As soon as practicable after the receipt of a petition under section 311, the Director shall make the petition available to the public.

13. 35 U.S.C. 313 provides:

Preliminary response to petition

If an inter partes review petition is filed under section 311, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no inter partes review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

14. 35 U.S.C. 314 provides:

Institution of inter partes review

(a) THRESHOLD.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

(b) TIMING.—The Director shall determine whether to institute an inter partes review under this chapter pursuant to a petition filed under section 311 within 3 months after—

(1) receiving a preliminary response to the petition under section 313; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(c) NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's

determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(d) NO APPEAL.—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable.

15. 35 U.S.C. 315 provides:

Relation to other proceedings or actions

(a) INFRINGER'S CIVIL ACTION.—

(1) INTER PARTES REVIEW BARRED BY CIVIL ACTION.—An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) STAY OF CIVIL ACTION.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter partes review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) TREATMENT OF COUNTERCLAIM.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) PATENT OWNER'S ACTION.—An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

(c) JOINDER.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

(d) MULTIPLE PROCEEDINGS.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or matter may proceed, including providing for stay,

determination under subsection (a), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(d) NO APPEAL.—The determination by the Director whether to institute an inter partes review under this section shall be final and nonappealable.

15. 35 U.S.C. 315 provides:

Relation to other proceedings or actions

(a) INFRINGER'S CIVIL ACTION.—

(1) INTER PARTES REVIEW BARRED BY CIVIL ACTION.—An inter partes review may not be instituted if, before the date on which the petition for such a review is filed, the petitioner or real party in interest filed a civil action challenging the validity of a claim of the patent.

(2) STAY OF CIVIL ACTION.—If the petitioner or real party in interest files a civil action challenging the validity of a claim of the patent on or after the date on which the petitioner files a petition for inter partes review of the patent, that civil action shall be automatically stayed until either—

(A) the patent owner moves the court to lift the stay;

(B) the patent owner files a civil action or counterclaim alleging that the petitioner or real party in interest has infringed the patent; or

(C) the petitioner or real party in interest moves the court to dismiss the civil action.

(3) TREATMENT OF COUNTERCLAIM.—A counterclaim challenging the validity of a claim of a patent does not constitute a civil action challenging the validity of a claim of a patent for purposes of this subsection.

(b) PATENT OWNER'S ACTION.—An inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent. The time limitation set forth in the preceding sentence shall not apply to a request for joinder under subsection (c).

(c) JOINDER.—If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

(d) MULTIPLE PROCEEDINGS.—Notwithstanding sections 135(a), 251, and 252, and chapter 30, during the pendency of an inter partes review, if another proceeding or matter involving the patent is before the Office, the Director may determine the manner in which the inter partes review or other proceeding or matter may proceed, including providing for stay,

transfer, consolidation, or termination of any such matter or proceeding.

(e) ESTOPPEL.—

(1) PROCEEDINGS BEFORE THE OFFICE.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not request or maintain a proceeding before the Office with respect to that claim on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(2) CIVIL ACTIONS AND OTHER PROCEEDINGS.—The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

16. 35 U.S.C. 316 provides:

Conduct of inter partes review

(a) REGULATIONS.—The Director shall prescribe regulations—

(1) providing that the file of any proceeding under this chapter shall be made available to the public, except that any petition or document filed with the intent that it be sealed shall, if accompanied by a motion to seal, be treated as sealed pending the outcome of the ruling on the motion;

(2) setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a);

(3) establishing procedures for the submission of supplemental information after the petition is filed;

(4) establishing and governing inter partes review under this chapter and the relationship of such review to other proceedings under this title;

(5) setting forth standards and procedures for discovery of relevant evidence, including that such discovery shall be limited to—

(A) the deposition of witnesses submitting affidavits or declarations; and

(B) what is otherwise necessary in the interest of justice;

(6) prescribing sanctions for abuse of discovery, abuse of process, or any other improper use of the proceeding, such as to harass or to cause unnec-

essary delay or an unnecessary increase in the cost of the proceeding;

(7) providing for protective orders governing the exchange and submission of confidential information;

(8) providing for the filing by the patent owner of a response to the petition under section 313 after an inter partes review has been instituted, and requiring that the patent owner file with such response, through affidavits or declarations, any additional factual evidence and expert opinions on which the patent owner relies in support of the response;

(9) setting forth standards and procedures for allowing the patent owner to move to amend the patent under subsection (d) to cancel a challenged claim or propose a reasonable number of substitute claims, and ensuring that any information submitted by the patent owner in support of any amendment entered under subsection (d) is made available to the public as part of the prosecution history of the patent;

(10) providing either party with the right to an oral hearing as part of the proceeding;

(11) requiring that the final determination in an inter partes review be issued not later than 1 year after the date on which the Director notices the institution of a review under this chapter, except that the Director may, for good cause shown, extend the 1-year period by not more than 6 months, and may adjust the time periods in this paragraph in the case of joinder under section 315(c);

(12) setting a time period for requesting joinder under section 315(c); and

(13) providing the petitioner with at least 1 opportunity to file written comments within a time period established by the Director.

(b) CONSIDERATIONS.—In prescribing regulations under this section, the Director shall consider the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.

(c) PATENT TRIAL AND APPEAL BOARD.—The Patent Trial and Appeal Board shall, in accordance with section 6, conduct each inter partes review instituted under this chapter.

(d) AMENDMENT OF THE PATENT.—

(1) IN GENERAL.—During an inter partes review instituted under this chapter, the patent owner may file 1 motion to amend the patent in 1 or more of the following ways:

(A) Cancel any challenged patent claim.

(B) For each challenged claim, propose a reasonable number of substitute claims.

(2) ADDITIONAL MOTIONS.—Additional motions to amend may be permitted upon the joint request of the petitioner and the patent owner to materially advance the settlement of a proceeding under section 317, or as permitted by regulations prescribed by the Director.

(3) SCOPE OF CLAIMS.—An amendment under this subsection may not enlarge the scope of the claims of the patent or introduce new matter.

(e) EVIDENTIARY STANDARDS.—In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.

17. 35 U.S.C. 317 provides:

Settlement

(a) IN GENERAL.—An inter partes review instituted under this chapter shall be terminated with respect to any petitioner upon the joint request of the petitioner and the patent owner, unless the Office has decided the merits of the proceeding before the request for termination is filed. If the inter partes review is terminated with respect to a petitioner under this section, no estoppel under section 315(e) shall attach to the petitioner, or to the real party in interest or privy of the petitioner, on the basis of that petitioner's institution of that inter partes review. If no petitioner remains in the inter partes review, the Office may terminate the review or proceed to a final written decision under section 318(a).

(b) AGREEMENTS IN WRITING.—Any agreement or understanding between the patent owner and a petitioner, including any collateral agreements referred to in such agreement or understanding, made in connection with, or in contemplation of, the termination of an inter partes review under this section shall be in writing and a true copy of such agreement or understand-

ing shall be filed in the Office before the termination of the inter partes review as between the parties. At the request of a party to the proceeding, the agreement or understanding shall be treated as business confidential information, shall be kept separate from the file of the involved patents, and shall be made available only to Federal Government agencies on written request, or to any person on a showing of good cause.

18. 35 U.S.C. 318 provides:

Decision of the Board

(a) FINAL WRITTEN DECISION.—If an inter partes review is instituted and not dismissed under this chapter, the Patent Trial and Appeal Board shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d).

(b) CERTIFICATE.—If the Patent Trial and Appeal Board issues a final written decision under subsection (a) and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable, confirming any claim of the patent determined to be patentable, and incorporating in the patent by operation of the certificate any new or amended claim determined to be patentable.

(c) INTERVENING RIGHTS.—Any proposed amended or new claim determined to be patentable and incorporated into a patent following an inter partes review under this chapter shall have the same effect as that

specified in section 252 for reissued patents on the right of any person who made, purchased, or used within the United States, or imported into the United States, anything patented by such proposed amended or new claim, or who made substantial preparation therefor, before the issuance of a certificate under subsection (b).

(d) DATA ON LENGTH OF REVIEW.—The Office shall make available to the public data describing the length of time between the institution of, and the issuance of a final written decision under subsection (a) for, each inter partes review.

19. 35 U.S.C. 319 provides:

Appeal

A party dissatisfied with the final written decision of the Patent Trial and Appeal Board under section 318(a) may appeal the decision pursuant to sections 141 through 144. Any party to the inter partes review shall have the right to be a party to the appeal.

20. 35 U.S.C. 321 provides:

Post-grant review

(a) IN GENERAL.—Subject to the provisions of this chapter, a person who is not the owner of a patent may file with the Office a petition to institute a post-grant review of the patent. The Director shall establish, by regulation, fees to be paid by the person requesting the review, in such amounts as the Director determines to

be reasonable, considering the aggregate costs of the post-grant review.

(b) SCOPE.—A petitioner in a post-grant review may request to cancel as unpatentable 1 or more claims of a patent on any ground that could be raised under paragraph (2) or (3) of section 282(b) (relating to invalidity of the patent or any claim).

(c) FILING DEADLINE.—A petition for a post-grant review may only be filed not later than the date that is 9 months after the date of the grant of the patent or of the issuance of a reissue patent (as the case may be).

21. 35 U.S.C. 322 provides:

Petitions

(a) REQUIREMENTS OF PETITION.—A petition filed under section 321 may be considered only if—

(1) the petition is accompanied by payment of the fee established by the Director under section 321;

(2) the petition identifies all real parties in interest;

(3) the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, including—

(A) copies of patents and printed publications that the petitioner relies upon in support of the petition; and

(B) affidavits or declarations of supporting evidence and opinions, if the petitioner relies on other factual evidence or on expert opinions;

(4) the petition provides such other information as the Director may require by regulation; and

(5) the petitioner provides copies of any of the documents required under paragraphs (2), (3), and (4) to the patent owner or, if applicable, the designated representative of the patent owner.

(b) PUBLIC AVAILABILITY.—As soon as practicable after the receipt of a petition under section 321, the Director shall make the petition available to the public.

22. 35 U.S.C. 323 provides:

Preliminary response to petition

If a post-grant review petition is filed under section 321, the patent owner shall have the right to file a preliminary response to the petition, within a time period set by the Director, that sets forth reasons why no post-grant review should be instituted based upon the failure of the petition to meet any requirement of this chapter.

23. 35 U.S.C. 324 provides:

Institution of post-grant review

(a) THRESHOLD.—The Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the peti-

tion filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

(b) ADDITIONAL GROUNDS.—The determination required under subsection (a) may also be satisfied by a showing that the petition raises a novel or unsettled legal question that is important to other patents or patent applications.

(c) TIMING.—The Director shall determine whether to institute a post-grant review under this chapter pursuant to a petition filed under section 321 within 3 months after—

(1) receiving a preliminary response to the petition under section 323; or

(2) if no such preliminary response is filed, the last date on which such response may be filed.

(d) NOTICE.—The Director shall notify the petitioner and patent owner, in writing, of the Director's determination under subsection (a) or (b), and shall make such notice available to the public as soon as is practicable. Such notice shall include the date on which the review shall commence.

(e) NO APPEAL.—The determination by the Director whether to institute a post-grant review under this section shall be final and nonappealable.

24. 37 C.F.R. 42.4 provides:

Notice of trial.

(a) *Institution of trial.* The Board institutes the trial on behalf of the Director.

(b) Notice of a trial will be sent to every party to the proceeding. The entry of the notice institutes the trial.

(c) The Board may authorize additional modes of notice, including:

(1) Sending notice to another address associated with the party, or

(2) Publishing the notice in the Official Gazette of the United States Patent and Trademark Office or the FEDERAL REGISTER.

25. 37 C.F.R. 42.108 provides:

Institution of *inter partes* review.

(a) When instituting *inter partes* review, the Board may authorize the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim.

(b) At any time prior to institution of *inter partes* review, the Board may deny some or all grounds for unpatentability for some or all of the challenged claims. Denial of a ground is a Board decision not to institute *inter partes* review on that ground.

(c) *Sufficient grounds. Inter partes* review shall not be instituted for a ground of unpatentability unless

the Board decides that the petition supporting the ground would demonstrate that there is a reasonable likelihood that at least one of the claims challenged in the petition is unpatentable. The Board's decision will take into account a patent owner preliminary response where such a response is filed, including any testimonial evidence, but a genuine issue of material fact created by such testimonial evidence will be viewed in the light most favorable to the petitioner solely for purposes of deciding whether to institute an *inter partes* review. A petitioner may seek leave to file a reply to the preliminary response in accordance with §§42.23 and 42.24(c). Any such request must make a showing of good cause.

26. 37 C.F.R. 42.208 provides:

Institution of post-grant review.

(a) When instituting post-grant review, the Board may authorize the review to proceed on all or some of the challenged claims and on all or some of the grounds of unpatentability asserted for each claim.

(b) At any time prior to institution of post-grant review, the Board may deny some or all grounds for unpatentability for some or all of the challenged claims. Denial of a ground is a Board decision not to institute post-grant review on that ground.

(c) *Sufficient grounds.* Post-grant review shall not be instituted for a ground of unpatentability unless the Board decides that the petition supporting the ground would, if unrebutted, demonstrate that it is

more likely than not that at least one of the claims challenged in the petition is unpatentable. The Board's decision will take into account a patent owner preliminary response where such a response is filed, including any testimonial evidence, but a genuine issue of material fact created by such testimonial evidence will be viewed in the light most favorable to the petitioner solely for purposes of deciding whether to institute a post-grant review. A petitioner may seek leave to file a reply to the preliminary response in accordance with §§42.23 and 42.24(c). Any such request must make a showing of good cause.

(d) *Additional grounds.* Sufficient grounds under §42.208(c) may be a showing that the petition raises a novel or unsettled legal question that is important to other patents or patent applications.

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Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 Tex. L. Rev. 1769 (2014) 18

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REPLY BRIEF FOR PETITIONER

One would be forgiven, after reading the Interim Director's brief, for thinking that this Court had granted certiorari on the question of how 35 U.S.C. § 314, dealing with institution of inter partes reviews before the Patent Trial and Appeal Board, should be interpreted. Fed. Resp. Br. i, 17-45. Indeed, the Interim Director has provided this Court with scantly more than three pages of argument (*id.* at 45-48) addressed to the single question on which certiorari *was* granted—whether the requirement of "a final written decision with respect to the patentability of any patent claim challenged by the petitioner" means what it says (Pet. i)—and even there, he offers little more than a conclusory "*[a] fortiori*" argument in the final sentence of his brief as his complete response on the merits of this important interpretive question. Fed. Resp. Br. 48.

But this case is about one thing: 35 U.S.C. § 318(a)'s mandate of a "final written decision" that addresses every "patent claim challenged by the petitioner." This case is not about the beginning of the inter partes review process, but the end. The proper interpretation of § 318(a)'s "final written decision" requirement does not call upon this Court to review "[t]he determination by the Director whether to institute an inter partes review under this section"—the only thing made "final and nonappealable" under § 314(d).

Because the Interim Director seeks to make this case about § 314 and not § 318, most of his brief is nonresponsive to petitioner's opening brief, leaving almost all of petitioner's showings unrebutted.

The judgment should be reversed.

ARGUMENT

I. THIS CASE IS REVIEWABLE

This Court granted certiorari on a single question—whether 35 U.S.C. § 318(a) means—as it says—that the Board must issue a final written decision on every "patent claim challenged by the petitioner." Pet. i; J.A. 79. Nowhere in that question, nor in the singular re-phrased question in the former Director's Brief in Opposition to certiorari (BIO i), is there any reference to § 314, the section addressing the Director's authority to institute an inter partes review.

Yet the Interim Director now seeks to smuggle a § 314 question into the case. He attempts this first by adding it to his now-plural re-re-statement of the "Questions [*sic*] Presented" (*see* Fed. Resp. Br. i), and then by repeatedly asserting that the § 314 question is actually petitioner's "primary submission" (*id.* at 13), "primary" or "principal argument" (*id.* at 17, 18, 23), or "principal contention" (*id.* at 22, 43, 46).

Repeating that does not make it so. The question on which certiorari was granted is about the proper scope of a final written decision under § 318(a), and does not involve the institution section, § 314, at all, let alone "primar[ily]" or "principal[ly]" so. Even so, the Interim Director actually tries to chide petitioner for failing to "address Section 314(d)'s application to this case." Fed. Resp. Br. 23. Of course petitioner did not address it—the court of appeals did not decide on that ground, and the Court did not grant review on that question.

Section 314(d) provides only that "[t]he determination by the Director whether to institute an inter partes review under this section shall be final and unappealable." Petitioner does not challenge the

Director's "determination . . . whether to institute an inter partes review," for as to that "determination . . . whether," the Director in fact did institute such a review, on petitioner's request. This case instead represents a proper, judicially reviewable appeal, under § 319, by "[a] party dissatisfied with the final written decision of the . . . Board." Even the Federal Circuit recognized this by deciding the issue on its merits, not on any principle of unreviewability. Pet. App. 20a-21a; *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1316-17 (Fed. Cir. 2016).

Section 314(d)'s unreviewability principle has only a narrow, cabined reach. As this Court emphasized in *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016), the Patent Office there overcame the "strong presumption" in favor of judicial review, *Mach Mining, LLC v. EEOC*, 135 S. Ct. 1645, 1651 (2015), only because the review being sought—court review of the Board's discretionary decision to institute inter partes review on claims that were not explicitly challenged by the petition—was "closely tied to the application and interpretation of" § 314(d), which only bars appeals of "determinations . . . to initiate an inter partes review *under this section.*" *Cuozzo*, 136 S. Ct. at 2141 (quoting § 314(d) and adding ellipsis). But the Court was just as emphatic that this holding did not extend to "other questions of interpretation that reach, in terms of scope and impact, well beyond 'this section.'" *Id.* Nor was the Court willing to abide "shenanigans," such as where "the agency . . . act[s] outside its statutory limits." *Id.* at 2141-42.

This case, by contrast to *Cuozzo*, involves another question of interpretation that reaches in scope and impact, "well beyond" § 314(d) and the institution

phase. The question here involves the interpretation of an entirely different section, § 318, and deals with not the Board's discretionary institution decision, but the opposite end of the inter partes review process—the "final written decision" required by its subsection (a). In fact, that "final written decision" is a necessary predicate to the court review provided by § 319; it would be bizarre (and would surely qualify as "shenanigans") if the narrow nonreviewability principle of § 314(d) could limit judicial review of whether the Board issued a proper final decision for which there *is* judicial review. "If a provision can reasonably be read to permit judicial review, it should be." *Cuozzo*, 136 S. Ct. at 2150 (Alito, J., concurring in part and dissenting in part).

Interpretive absurdity and "shenanigans" aside, the Interim Director's nonreviewability argument is a dangerous one, for it would eliminate an essential judicial check on the agency's power to disobey its authorizing statute. The result of such a holding would elevate this federal agency to a super-powered fourth branch of government, empowered not only to rewrite Congress's carefully crafted adjudicative system to suit its own interests (*contra* Pet. Br. 32-44), but to do so without any judicial oversight. *L'etat, c'est l'agence.*

Perhaps the Patent Office in fact knows better than Congress, and perhaps it could have written a superior statute for inter partes review. And surely, the Patent Office (like every agency) would prefer the judiciary to be more supine, and just leave its work alone. But the Patent Office exists only because Congress, exercising its authority under Article I, Section 8, Clause 8 of the Constitution, decided to create that office; the patents that issue from and are reviewed by that office

likewise exist solely because of statutory law that Congress enacts from time to time, and the Patent Office, as with any agency, must act in harmony with its governing statutes. When the agency oversteps its statutory boundaries, that is where courts must step in—"[j]udicial review enforces the limits that *Congress* has imposed on the agency's power." *Cuozzo*, 136 S. Ct. at 2151 (Alito, J., concurring in part and dissenting in part).

The statutory-interpretation question presented by this case is judicially reviewable.

II. SECTION 318(a) REQUIRES A FINAL WRITTEN DECISION ON "ANY PATENT CLAIM CHALLENGED BY THE PETITIONER"

The Interim Director's passing-in-the-night brief means that most of petitioner's showings from its opening brief stand unrebutted. Most significantly, neither respondent takes issue with petitioner's demonstration that the term "any patent claim challenged by the petitioner," as a matter of the plain language used in § 318(a), means "all patent claims challenged by the petitioner." (Indeed, Respondent ComplementSoft goes so far as to urge the Court to interpret the statute "notwithstanding" its "plain-meaning definition." ComplementSoft Resp. Br. 13.) Nor do respondents dispute that the remaining text of § 318(a) is strictly additive—"and any new claim added," post-institution, "under section 316(d)." Nor, for that matter, do respondents dispute petitioner's showings that the Patent Office was delegated no power to alter or supplement the scope of § 318(a) final written decisions by regulation, and that the Patent

Office in fact implemented no regulation purporting to supplement or vary the scope of § 318(a).

Instead, respondents seek to use their § 314 argument as a bootstrap to justify the Board's partial-written-decision practice under § 318(a). According to respondents, when the Board determines to institute review on fewer than all of the claims challenged in a petition, the Board's action constrains the plain meaning of "any patent claim challenged by the petitioner" in § 318(a). Fed. Resp. Br. 46-48; ComplementSoft Resp. Br. 12.

But the statutory text cannot bear the weight that respondents place upon it. Section 318(a) does not say that the Board must issue a final written decision with respect to "any patent claim on which the Director has authorized institution of an inter partes review." Rather, it says broadly, and without limitation, that the Board's final written decision must extend to "any patent claim challenged by the petitioner and any new claim added" by amendment after the inter partes review was instituted.

In § 318(a), Congress chose the term "any patent claim challenged by the petitioner"—a standard that depends only on the decisions of one actor, the petitioner—as the touchstone requirement for a "final written decision." Section 318(a) is otherwise additive—it also requires the final written decision to address "any new claim" added by amendment, whether or not challenged by the petitioner. Neither of those facets of the subsection makes any reference to the Director, or the Board, having the power to narrow the identity of the claims that must be addressed in a final written decision. Had that been what Congress

wanted, it would have written a very different statute. But the entire statutory regime of inter partes review, as it was written by Congress, contains not even a whiff of a hint that "challenged by the petitioner" really means "allowed to proceed, post-institution, by the Board."

Indeed, the Federal Circuit's *Synopsys* decision located only a single textual reason for concluding that the scope of the § 318(a) written decision could be narrower than the scope of the claims challenged in the petition under § 314(a)—the slight difference in language between the two provisions. *See* 814 F.3d at 1315; *compare* § 314(a) ("claims challenged in the petition") *with* § 318(a) ("any patent claim challenged by the petitioner"). But, as petitioner showed in its opening brief, that slight linguistic variation ("in the petition"/"by the petitioner") is compelled by the single event that could take place under the statute, post-institution, to make the "claim[s] challenged by the petitioner" different than those the petitioner challenges "in the petition"—the voluntary cancellation of a "challenged patent claim" under § 316(d)(1)(A). Had § 318(a) been worded using the identical "in the petition" language of § 314(a), the Board would have been obligated to issue decisions on cancelled, nonexistent patent claims. *See* Pet. Br. 27.

Neither the *Synopsys* majority nor respondents here grapple with the obvious fact that the statute defines the scope of the final written decision with reference to which patent claims "the petitioner" is challenging, not to claims for which "the Board" or "the Director" instituted review. This is why the scope of the final written decision is unaffected by the legality *vel non* of the Board's institution practices—there is no textual

link of this kind between the Act's institution provision and its final-written-decision provision. Whether or not the Board is justified in instituting inter partes review on only a subset of claims challenged in the petition, § 318(a) unambiguously requires the Board to issue a final written decision on all "patent claim[s] challenged by the petitioner." The Patent Office was not delegated any authority, in § 316(a) or elsewhere, to elaborate upon or vary the plain terms of § 318(a), and the Patent Office has not purported to do so in its regulations. So it is that statutory language that binds the Board.

With a full final decision, all of the challenged claims can be subject to the estoppel effect prescribed by the statute, and can be appealed to the Federal Circuit. But, by deciding only some of the claims challenged, the Board is not only propagating inefficiencies (*see* Pet. Br. 29 & n.2), but, as in this case, an unreviewable absurdity: Here, the Board instituted inter partes review on claim 4 of the ComplementSoft patent, but not on claim 2. Pet. App. 105a-106a. Claim 4 is narrower (contains additional limitations) than claim 2. Thus, if the narrower claim 4 were unpatentable, claim 2 would "necessarily" be unpatentable. *Cf. Cuozzo*, 136 S. Ct. at 2154 (Alito, J., concurring in part and dissenting in part) (noting that the Board in *Cuozzo* expanded the claims for review at the institution stage for this same reason).

Yet, because of the Board's failure to extend its final written decision to challenged claim 2, petitioner was left without any ability to appeal that adverse determination to the Federal Circuit, or to obtain a remand to the Board for adjudication of claim 2 in view of that court's remand on claim 4. Nor would the

patent owner get any estoppel benefit with respect to claim 2 in the later district court litigation. Instead, without the benefit of a final, appealable, and estopping written decision on claim 2, the parties will have to relitigate the patentability of that claim in the district court. This is exactly the kind of "administrative obstinacy" that, as Judge Newman explained, prevents the statutory provisions from "act[ing] in harmony, like a well-oiled machine." Pet. App. 26a.

III. WERE THE COURT TO REACH THE ISSUE, IT SHOULD CONCLUDE THAT THE BOARD'S PARTIAL-INSTITUTION PRACTICE IS *ULTRA VIRES*

Petitioner did not seek, and this Court did not grant, review with respect to the proper interpretation of § 314. *See* Pet. i; J.A. 79. Indeed, as the Interim Director argues, petitioner had no vehicle within the inter partes review process for challenging the Board's institution decision under § 314(d) and *Cuozzo*. Fed. Resp. Br. 18. However, because the Interim Director seeks to recast this case as a challenge to § 314(a) instead of § 318(a), petitioner responds to that argument out of an abundance of caution.

1. By its terms, the text of the statute cannot be read as allowing "partial" institutions. Nowhere in the entirety of the America Invents Act is there any indication that the Patent Office may institute inter partes review on fewer than all of the claims challenged in a petition.

The closest textual support that the Interim Director has for this proposition is the language of § 314(a) (entitled "THRESHOLD") that sets a probable-

cause-like determination as the standard for initiating inter partes review—"that there is a likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." *See Cuozzo*, 136 S. Ct. at 2140. Notably, even though Congress used "at least 1 of the claims" in the statute to define the threshold for institution, Congress did not say that the Director could *limit* institution to only those claims for which a likelihood-of-success determination was made. Rather, the Director's finding that "at least 1 claim" satisfies the likelihood-of-success standard is enough to institute inter partes review. The Director could permissibly stop there, as the statute calls only for a "determination," not a reasoned decision. 35 U.S.C. § 314(d) ("determination . . . whether to institute an inter partes review"); *id.* § 314(b) ("[t]he Director shall determine"), (c) ("the Director's determination").

2. Confirming this understanding, § 316(a)(2) commands the Director to "prescribe regulations . . . setting forth the standards for the showing of sufficient grounds to institute a review under section 314(a)." This "explicit grant of authority" (Fed. Resp. Br. 45) extends only to elaborating "the standards for the showing of sufficient grounds" for instituting review. Like § 314(a) itself, this paragraph does not authorize the Director to alter the scope of inter partes review.

3. By asserting authority to institute only partial inter partes reviews, the Board distorts the proper operation of other aspects of the inter partes review regime. Other essential provisions of the Act are built upon the premise that it is the petitioner's petition—not the Director's or Board's selection of claims—that

defines the scope of an instituted inter partes review. This starts with § 311, entitled "Inter partes review." Its subsection (b), entitled "SCOPE," says that the "scope" of inter partes review is defined by the petitioner's request: "*A petitioner* in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent . . . ." (Emphasis added.)

The provisions that follow build upon the understanding that the petitioner, not the Director or Board, has defined the scope of a granted inter partes review. An instituted inter partes review starts with "each claim challenged" in the petition, § 312(a)(3), and then, once institution is granted, allows for the respondent to subtract, from the claims challenged in the petition, any cancelled patent claim, § 316(d)(1)(A), and then add any "substitute" (amended) claim, § 316(d)(1)(B). That equals the proper scope of the "final written decision" under § 318(a): "any patent claim challenged by the petitioner and any new claim added under section 316(d)." The Patent Office's partial-institution practice upends this logical, elegant—and, most importantly, statutorily prescribed—system.

4. That is not all. Partial institutions are also anathema to the estoppel provisions of the Act. As petitioner showed (Pet. Br. 28-31), it makes good sense for petitioners to select the claims for challenge in inter partes review, so that if inter partes review is granted, all—not just some—of the patent claims that the petitioner is likely to face as defendant in an infringement suit can have their patentability adjudicated by the Board. (Or, if inter partes review is denied, the full complement of patent claims can have

their validity adjudicated, without estoppel under § 315, by a district court.)

While the Interim Director seeks to promote partial institutions as an efficiency-enhancing addition to the Act (Fed. Resp. Br. 34-40), it is anything but. As petitioner showed (Pet. Br. 28-32), this approach multiplies parties' litigation burdens, forcing parties like SAS to litigate in a second, district-court forum some of the patentability challenges that could easily have been, as here, adjudicated by the Board. The Department of Justice said it well: "[B]y picking and choosing some but not all of the challenged claims in its Decision, the Board has undermined the Congressional efficiency goal and increased the workload of both parties who are now forced to litigate validity between two forums." Petitioner's Request for Rehearing Pursuant to 37 C.F.R. § 42.71(d), U.S. Patent No. 7,323,980, *Dep't of Justice v. Discovery Patents, LLC*, Case IPR2016-01041 (Patent Trial & Appeal Bd., Nov. 29, 2016); *see* Pet. Br. 30.

The Interim Director nonetheless thinks that the Board's partial-decision approach is more efficient for Patent Office staff. Fed. Resp. Br. 34-35. That is a dubious claim, given that the Board is presently writing what essentially amount to advisory opinions—extensive, unappealable, and un-estopping institution decisions on patent claims for which it is not instituting inter partes review.

Yet, putting aside the fact that the Patent Office is obligated to consider the efficiency interests of all of its stakeholders, not just its own interests, *see* § 316(b), the Interim Director fails to explain why the Patent Office could not effectively—and efficiently—follow

the statute by its terms. *See* Pet. Br. 38-39. For example, if the Board were to institute inter partes review by simply issuing the unreasoned "notice" determination anticipated by the statute, § 314(d), the Board could decide patentability of the challenged claims on a fully developed record, rather than prejudging the case on the limited institution record (*see* §§ 312-313). The Board would then be writing decisions on the same number of claims as present, but the decisions would come in a final written decision at the end of the process, informed by a fully developed record rather than the thin record created by the institution papers, and would make the entirety of the claims challenged by the petitioner both estopping and appealable—just as the design of the statute anticipates.

Or, if the Board were to insist on continuing the practice of extensive institution opinions, the Board could establish standards that make those initial determinations into the equivalent of rulings on motions to dismiss under FED. R. CIV. P. 12, and then carry forward those threshold decisions and merge them into the final decision, just as federal courts do. Pet. Br. 24. It would then take no more additional work than for the Board to say, "We reject petitioner's challenge to claim 2 for the reasons stated in our institution decision." The Board's threshold work on claim 2 would then not be for naught, but would instead be appealable and estopping.

Either of these alternatives would have no adverse effect on the agency's workload, yet would honor the statute that Congress actually wrote.

5. The Interim Director's effort to analogize partial institutions to this Court's practice of granting only some questions presented by a petition for certiorari, or an en banc appellate court's ability to decide cases "on a question-by-question basis" (Fed. Resp. Br. 27) is off base. For one, the Board is a tribunal of first instance, not a court of review—it would be strange for such a filter to be applied at the outset of litigation, and stranger still in view of the statutory language, which plainly makes "the petitioner" the master of its complaint. *See* Pet. Br. 24. For another, neither this Court nor the en banc courts of appeals are bound by a statutory command that they "shall issue a final written decision as to every issue presented" by a petitioner. As to every patent claim challenged by an inter partes review petitioner, though, the Board is so bound by the express language of § 318(a).

The better Board-to-court analogy is found by comparing the district courts—the courts of first instance—to the Board. District court adjudications are not complete unless they comply with the final-judgment rule, which is a useful analog to the "final written decision" requirement of § 318(a). A final judgment, like a final written decision, is the predicate to both appealability, 28 U.S.C. § 1291, and estoppel, *see Arizona v. California*, 530 U.S. 392, 414 (2000) ("It is the general rule that issue preclusion attaches only '[w]hen an issue of fact or law is actually litigated and determined by a valid and final judgment . . . ."). So it should be with § 318(a).

If the Court were to reach the issue, it should conclude that the Board's partial-institution practice is either contrary to the plain language of the statute,

or, in the case of ambiguity, not based on a permissible construction of the statute for the reasons set forth in Section IV, below: The Patent Office's partial-institution practice is a poor fit with the rest of the inter partes review statute, and thereby distorts the entirety of the operation of inter partes review as Congress drafted it.

IV. *CHEVRON* IS NOT A LICENSE TO REWRITE THE STATUTE TO SUIT THE PATENT OFFICE

The Interim Director's effort to shift the ground of analysis from § 318(a) to § 314 is a curious one. It may have been motivated by the fact that the Patent Office finds no specific delegation in § 316(a) to alter the scope of a final written decision, and the further, consequential fact that the Patent Office has promulgated no regulation that addresses the scope of a final written decision. Pet. Br. 34-35. Accordingly, it is the clear, plain language of § 318(a) that resolves this case, and there is no place for administrative deference, under *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984), or otherwise, in the interpretation of § 318(a).

The Interim Director does not defend the Board's application of § 318(a) under *Chevron*; indeed, the only appearance of *Chevron* in the Interim Director's brief comes via his plea that "[t]he USPTO's regulation construing the AIA to permit partial institution is entitled to deference." Fed. Resp. Br. 40-45. But even there, the Interim Director seeks to use *Chevron* to arrogate too much power to his agency.

The Court need not reach this issue, for the clear statutory language answers the question presented in

favor of petitioner. *See* pp. 5-9, above. But if it were to reach the issue, it should hold that the Patent Office was delegated no authority to narrow the scope of a "final written decision," and that the statute is clear and should be enforced at *Chevron* step one without the need for further inquiry. Pet. Br. 32-39.

Alternatively, if the Court were to reach *Chevron* step two, the Court should hold that even if there were room for agency elaboration on the statute, the particular practice of issuing "partial final written decisions" is not "based on a permissible construction of the statute" under *Chevron*, 467 U.S. at 843. As shown above, and in petitioner's opening brief (at 32-41), the Patent Office's administration of the inter partes review statute has transformed the inter partes review regime into an animal bearing little or no resemblance to the one created by Congress. "Deference" is not fealty.

V. RESPONDENTS' REMAINING ARGUMENTS LACK MERIT

The Interim Director and ComplementSoft—which reappears in this case with a merits brief, having failed to file a brief in opposition to certiorari—present a number of other arguments in support of affirmance. None has merit.

1. The fact that "[p]atent [l]aw [i]s [b]ased on a [c]laim-[b]y-[c]laim [a]nalysis" (ComplementSoft Resp. Br. 10) does not give the agency *carte blanche* to issue a final written decision on whatever subset of "patent claim[s] challenged by the petitioner" it chooses. Section 318(a) is written in the language of command ("shall"), not of discretion. Pet. Br. 20. And the further elaboration of that command, that the final written

decision must extend to "any patent claim challenged by the petitioner"—not "some of the patent claims challenged by the petitioner"—confirms that the Patent Office possesses no discretion on the subject of scope. *See United States v. Rosenwasser*, 323 U.S. 360 (1945) (discussed at Pet. Br. 21-23).

2. The Interim Director's reliance on the current statute's predecessors (Fed. Resp. Br. 3, 19) only confirms that petitioner's reading of § 318(a) is the correct one. Neither the ex parte reexamination statute, nor the now-superseded inter partes reexamination statute, contained any requirement that the Patent Office's reviewing Board (then known as the Board of Patent Appeals and Interferences) issue a "final written decision" on all "patent claims challenged by the petitioner." Rather, there was no statutory provision setting forth the requirements of a final, appealable decision, and appeals of Board reexamination decisions under those statutes could be had "with respect to any decision adverse to the patentability of any original or proposed amended or new claim of the patent" (35 U.S.C. § 306 (2011)).

3. Both respondents suggest that, because inter partes review was never intended to "wholly displace litigation as a means of resolving disputes about patent validity" (Fed. Resp. Br. 37; *see* ComplementSoft Br. 20-25), that renders irrelevant petitioner's—and Judge Newman's—showings that inter partes review was meant to be a "faster, less costly alternativ[e] to civil litigation." Pet. Br. 43 (quoting Sen. Grassley). Respondents miss the point. The point, of course, is that inter partes reviews are intended to be an alternative forum for completely adjudicating those patentability challenges that are

within the Board's ken—the most common ones, anticipation under § 102, and obviousness under § 103, based on prior-art patents or printed publications. Challenges under those two sections constitute almost 60% of the patent-invalidity defenses that are litigated in district courts. Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 Tex. L. Rev. 1769, 1787 (2014). The fact that inter partes reviews are, by statute, not more comprehensive is no reason to make them *less* comprehensive than the statute commands.

4. Finally, ComplementSoft's suggestion (ComplementSoft Resp. Br. 26-27) that SAS seeks the wrong remedy from this Court is not well taken. ComplementSoft insists that "the appropriate remedy" is for this Court to "strike down the Board's partial institution rules, vacate the IPR decision that would have been inappropriately rendered, and allow the Board the opportunity to decide again in the first instance whether it still wishes to institute the IPR." In the first place, ComplementSoft—which declined to file a brief in opposition to certiorari—has waived this argument by failing to present it at the certiorari stage. *See* Sup. Ct. R. 15.2; *Carcieri v. Salazar*, 555 U.S. 379, 395-96 (2009). ComplementSoft's preferred remedy would be inappropriate in any event because, again, the challenge in this case is not to the "partial institution rules," but to the Board's partial-final-decision regime.

That said, even the Interim Director himself—who did file a brief in opposition to certiorari, and who expends almost all of his energy on trying to recast this case as a challenge to the partial-institution practice—

does not seek this remedy on behalf of the Board. That is telling, indeed.

* * * *

The Intellectual Property Owners Association (IPO), an international association of over 200 companies and 12,000 individuals who are patent *owners*, and thus subject to inter partes review challenges to their patents, has informed this Court that the Board's interpretation of § 318(a) "undermines the legislative intent" behind inter partes review, and fails to "eliminate abusive practices of pursuing duplicative challenges of invalidity." IPO *Amicus* Br. 2, 12. Patent challengers like SAS, and patent owners like those represented by IPO, would benefit alike from having the statute read and enforced as it was written. That is a good sign that the interpretation of § 318(a) offered by petitioners is the correct one.

CONCLUSION

For these reasons, and those set forth in petitioner's opening brief, the judgment of the Federal Circuit should be reversed, and the case remanded with instructions to order the Patent Trial and Appeal Board to issue a final written decision with respect to the patentability of claims 2 and 11-16 of the '936 patent.

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SAS INSTITUTE INC.,

Petitioner,

v.

JOSEPH MATAL, Interim Director, U.S. Patent and Trademark Office, et al.

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF *AMICUS CURIAE* HOUSTON INTELLECTUAL PROPERTY LAW ASSOCIATION IN SUPPORT OF RESPONDENTS

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INTEREST OF *AMICUS CURIAE*

The Houston Intellectual Property Law Association ("HIPLA") is an association of hundreds of lawyers and other professionals who predominately work in the Houston, Texas, area (*see, generally*, www.hipla.org).[1] The practice of most of the HIPLA membership relates in substantial part to the field of intellectual property law. Founded in 1961, HIPLA is one of the largest associations of intellectual property practitioners in the United States. HIPLA represents the interests of its members and has filed *amicus curiae* briefs in this Court and other courts on significant issues of intellectual property law. As an organization, HIPLA has no stake in any of the parties to this litigation.[2]

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[1] No counsel for a party authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than the *amicus curiae* or its counsel made a monetary contribution to its preparation or submission. The parties have consented to the filing of this brief.

[2] HIPLA's Amicus Committee and Board of Directors voted on the preparation and submission of this brief. HIPLA procedures require approval of positions in briefs by a majority of directors present and voting.

SUMMARY OF THE ARGUMENT

Congress created *inter partes* review proceedings seeking to "improve patent quality and restore confidence in the presumption of validity that comes with issued patents." *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016). In order to accomplish this goal efficiently, Congress allowed the agency broad discretion in deciding whether to review patents challenged by petitioners seeking review. 35 U.S.C. 314(d). That discretion has to permit the agency to pick and choose claims within each patent that it agrees to review. After all, our patent system is built around claims, not entire patents. *See, e.g.*, 35 U.S.C. § 288.

Construing the America Invents Act (AIA) to permit partial institution in *inter partes* review proceedings allows the Patent Trial and Appeal Board (PTAB) to accept review on a significantly larger number of petitions than under Petitioner's all-or-nothing approach. An all-or-nothing approach, on the other hand, makes the agency's challenging task even more difficult, requiring the PTAB to forego review of many weak claims. That approach also dissuades patent owners from filing preliminary responses and discourages settlement between parties, resulting in increased expense and thwarting judicial economy. Such an approach will

likely result in an increase in appeals to the Federal Circuit on an under-developed record at the PTAB. Petitioner's approach thus furthers neither of the goals that the AIA set out for *inter partes* review proceedings. It hinders efficient use of the Board's limited resources and allows unpatentable claims to escape review.

Some have expressed concerns that the AIA's estoppel provisions are ineffective under the agency's approach, but *inter partes* review was never intended to wholly prevent validity challenges in parallel district court litigation. On the other hand, partial institution generally permits patent owners enforcing their rights under a patent to reach resolution sooner rather than later.

The Federal Circuit's decision is consistent with Congress's legislative intent in enacting the *inter partes* review provisions of the AIA and should be affirmed. The PTAB should be permitted to address only those claims for which *inter partes* review is instituted in a final written decision.

ARGUMENT

I. The Agency's Interpretation of Section 318(a) as Not Requiring the Patent Trial and Appeal Board in an *Inter Partes* Review to Issue a Final Written Decision as to Every Claim in the Petition is Correct.

The AIA does not require the PTAB to address in the final written decision on an *inter partes* review every single claim raised in the review petition by a petitioner.

Section 318(a) provides that, "[i]f an *inter partes* review ***is instituted*** and not dismissed," the PTAB "shall issue a final written decision with respect to the patentability of any patent claim challenged by the petitioner and any new claim added under section 316(d)." 35 U.S.C. § 318(a) (emphasis added). Section 318(a) is directed to the portion of the proceeding following the Board's institution decision. The only claims that remain "challenged" at this stage of the proceeding are those for which the Board has instituted review. Section 314(a) plainly requires the Board to undertake a claim-by-claim analysis to determine whether the petitioner has demonstrated "a reasonable likelihood" of prevailing on at least one of the claims challenged in the petition. 35 U.S.C. § 314(a). As a result, at least

some of the claims for which the Board declines to institute review are those on which the petitioner has failed to show even a reasonable likelihood that it would prevail in establishing that the claims are unpatentable. That determination is "final and nonappealable." 35 U.S.C. § 314(d). Requiring the Board's final written decision to address petitioner's unsuccessful challenges to those claims would essentially make the Board's institution decision reviewable. Section 318(a) is therefore best read to exclude such claims as having been "challenged by the petitioner." The agency's interpretation of the AIA to permit partial institution is reasonable.

II. Permitting Partial Institution Promotes Efficiency and Avoids Unnecessary Use of Agency Resources.

"*Inter partes* review is an 'efficient system for challenging patents that should not have issued.'" *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016) (quoting H.R. Rep. No. 98, 112th Cong., 1st Sess. 39–40 (2011)). The PTAB is bound by statutory timelines in instituting and completing the review. The PTAB must issue a final determination in an *inter partes* review not later than one year after the date on which it institutes the review. 35 U.S.C. § 316(a)(11). For every instituted claim, the PTAB receives submissions of

evidence from the parties as well as hears argument, in some cases including live testimony, before issuing a final written decision. *See* 37 C.F.R. § 42.70; Amendments to the Rules of Practice for Trials Before the PTAB, 81 Fed. Reg. 18,750, 18,760 (April 1, 2016) (2016 Rule Amendments). Yet, the PTAB regularly meets the one-year statutory time deadline for a final written decision, only rarely extending the allowed time period for good cause.[3] In contrast, resolution of validity challenges in district court takes at least twice that amount of time.[4]

The agency receives an overwhelming volume of review petitions under the AIA—far more than the agency anticipated when it first implemented procedures for the review. For example, the agency had estimated that 500 *inter partes* review petitions

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[3] *See* Daniel Parrish, PTAB Adjusts Deadline for Final Decisions in Rare Cases (June 28, 2017), *available at* https://www.law360. com/articles/939491/ptab-adjusts-deadline-for-final-decisions-in-rare-cases (concluding that the PTAB has met the deadline in 99.8% of post-grant proceedings under the AIA).

[4] The average time to trial in patent cases in a district court is about two and a half years. *See* 2017 Patent Litigation Study, Are we at an inflection point? (Patent Litigation Study), at 22, *available at* https://www.pwc.com/us/en/forensic-services/publications/assets/2017-patent-litigation-study.pdf. Post-trial disputes may further delay final resolution at the district court by months.

would be filed in Fiscal Year 2015. In reality, it received 1,737 petitions.[5] Recent statistics from the agency show that it has received over 6,700 *inter partes* review petitions.[6] For perspective, a total of 5,100 patent cases were filed in district courts across the nation in 2016.[7] And although the PTAB's institution rate in post grant proceedings has dropped from a high of 87% in Fiscal Year 2013, it continues to be close to 70% for the vast majority of petitions.[8] While the PTAB has instituted review in well over half of these *inter partes* review petitions, the number of claims on which review has been instituted is far less than half of the total number of claims challenged in these petitions.[9]

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[5] *See* Patent Trial and Appeal Board Statistics, 9/30/2015, *available at* https://www.uspto.gov/sites/default/files/documents/2015-09-30 PTAB.pdf.

[6] *See* Trial Statistics IPR, PGR, CBM Patent Trial and Appeal Board, July 2017 (July 2017 PTAB Statistics), *available at* https://www.uspto.gov/sites/default/files/documents/trial_statistics_july2017.pdf.

[7] *See* Patent Litigation Study, at 1. A different study put that number at 4,520. *See* 2016 Fourth Quarter Litigation Update, Lex Machina (Jan. 12, 2017), https://lexmachina.com/q4-litigation-update/.

[8] *See* July 2017 PTAB Statistics, at 8. Although these numbers are for all AIA proceedings, *inter partes* reviews account for 92% of those proceedings. *Id.* at 3.

[9] PTAB statistics show that out of 4,563 *inter partes* review petitions that had been resolved by March 2017, it had instituted trials on 2,406 petitions. *See* Patent Trial and Appeal Board Statistics, 3/31/2017 (March 2017 PTAB

Even given its limited resources, the PTAB is able to conduct review on well over half of the petitions filed, in part because it is permitted under the statute to institute review on a subset of the claims challenged in each petition.[10] An all-or-nothing approach would force the PTAB to accept review on far fewer petitions than it does today. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1316 (Fed. Cir. 2016) ("nothing in § 314 requires institution of *inter partes* review under any circumstance"). Partial institution therefore allows the Board to limit its review to the weakest of claims challenged. In fact, in 65% of the cases where it has granted review, the PTAB has found all of the claims that it agreed to review to be unpatentable, and at least some of the reviewed claims unpatentable in another 16% of the cases.[11] Requiring the PTAB to

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Statistics) at 10, *available at* https://www.uspto.gov/sites/default/files/documents/AIA Statistics_March2017.pdf. In terms of claims, those institution decisions related to only 32,777 of the 70,060 claims challenged in the petitions. *Id.* at 12. AIA proceeding statistics posted by the agency since March 2017 do not break down institution statistics by the type of proceeding.

[10] One study shows that as of 2015, the Board employed partial institution in over 60% of *inter partes* review petitions. *See* Saurabh Vishnubhakat, et al., Strategic Decision Making in Dual PTAB and District Court Proceedings, 31 Berkeley Tech. L.J. 45, 78 (2016).

[11] PTAB statistics tracking *inter partes* reviews that had reached a final disposition by March 2017 show that the PTAB

institute review of all challenged claims in cases where it finds merely a single claim meeting the "reasonable likelihood" standard forces the Board to forego review in such cases. In its effort to promote efficiency, the PTAB would necessarily have to limit institution to cases with the most number of claims susceptible to invalidity. This does little to further the AIA's goal of improving patent quality. *See Cuozzo*, 136 S. Ct. at 2139–2140 quoting H.R. Rep. No. 98, 112th Cong., 1st Sess. 48 (2011)).

An all-or-nothing approach also makes institution decisions more challenging for the PTAB, requiring consideration of not just the challenged claims but a comparison to other reviews pending institution. The Board is allowed *three months* under Section 314(b) to make a decision regarding institution of an *inter partes* review. In addition to evaluating likelihood of success on the challenged claims, the Board is required to consider whether the petition meets jurisdictional requirements as well as requirements set forth in Section 312. 35 U.S.C. §§ 311, 312. In evaluating claims, the Board also conducts claim interpretation to which it is generally bound throughout the proceeding. *See SAS Inst. Inc. v. ComplementSoft, LLC*, 825 F.3d

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had instituted trials on 2,406 *inter partes* review petitions. *See* March 2017 PTAB Statistics, at 10.

1341, 1351 (Fed. Cir. 2016) (holding that the Board is free to adopt a construction in its final written decision but cannot change theories midstream). Preventing partial institution would further complicate the Board's institution decisions.

Further, an all-or-nothing approach discourages patent owners from filing a response prior to the PTAB's institution decision. The AIA allows the owner of the challenged patent to file a "preliminary response" to the petition, setting forth "reasons why no *inter partes* review should be instituted." 35 U.S.C. § 313. Presently, most patent owners file a preliminary response, greatly assisting the Board in its institution decision.[12] That number is expected to grow as recent amendments to agency's rules on *inter partes* review allow patent owners to offer expert testimony in the preliminary response. *See* 2016 Rule Amendments at 18,755. Because an all-or-nothing approach would reduce institution rates and because an institution would result in review of all challenged claims, a patent owner would undoubtedly be incentivized to save its arguments for the post-institution proceeding when it has had an opportunity to further develop its own

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[12] PTAB statistics show less than 20% of patent owners forego a preliminary response. *See* March 2017 PTAB Statistics. In Fiscal Year 2016, patent owners waived or did not file a preliminary response in only 239 of 1,477 petitions.

evidence and to cross-examine petitioner's expert. Encouraging full disclosure of rebuttal evidence by the patent owner provides the Board with the best available information to decide whether to institute a trial, and may also lead to settlement or other early disposition of the proceeding, resulting in reduced expense and judicial economy. *See* 2016 Rule Amendments at 18,755.

In cases where the Board institutes review, the patent owner would be forced to develop evidence and respond to petitioner's arguments that failed to meet the threshold standard.

An all-or-nothing approach also dissuades settlement between the parties. To date, parties have resolved invalidity challenges, and likely any parallel district court proceedings, through settlement in almost a quarter of the cases in which the Board has instituted review of at least one of the challenged claims.[13] Especially in cases where a parallel district court proceeding is ongoing and only a few of the challenged claims are selected for *inter partes* review, the petitioner has less leverage available through a district court stay or delay

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[13] PTAB statistics show that by March 2017, of the 2,406 cases in which *inter partes* review was instituted, 593 proceedings were terminated through settlement. *See* March 2017 PTAB Statistics. In contrast, only 16% of cases settled before the institution decision.

caused by the Board proceeding. Obtaining a Board resolution on only a fraction of the challenged claims gives the petitioner incentive to settle. But under an all-or-nothing regime, a petitioner has little incentive to settle given that the *inter partes* review and any subsequent appeal could possibly delay district court litigation by well over two years. Likewise, a Board decision not to institute review on any of the challenged claims, whether with or without merit, would likely result in dissuading the patent owner from settlement.

An all-or-nothing approach also results in unnecessary appellate litigation. First, because it would be required issue a final written decision as to all claims challenged in the petition, the Board would need to devote significant time and resources to addressing the patentability of claims for which it may have determined that the petitioner had no reasonable likelihood of success. Although the AIA mandates that that determination is not reviewable, the final written decision laying out that same determination would now be subject to review. As a practical matter, however, the Board's focus during the proceeding would remain on evaluating claims that it believes are likely to be unpatentable, resulting in an under-developed record as to claims on which review should not have been instituted.

The court of appeals would similarly be burdened with reviewing Board decisions based on an under-developed record. Petitioners would be motivated to appeal these institution decisions in hopes of supplementing an otherwise deficient petition, effectively seeking a second bite at the apple and burdening an already busy appellate court.[14]

Notably, the court reviews factual findings of the Board in appeals from *inter partes* review for substantial evidence rather than under a more probing clear error standard. *Merck & Cie v. Gnosis S.P.A.*, 820 F.3d 432, 436 (Fed. Cir. 2016) (O'Malley, J. concurring) (agreeing that "a substantial evidence standard of review is seemingly inconsistent with the purpose and content of the AIA," but it is an inconsistency for Congress to correct). Thus, an all-or-nothing approach not only forces institution on claims where review may be unnecessary, it allows

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[14] Federal Circuit statistics show that more than 40% of its currently pending appeals come from the PTAB. *See* United States Court of Appeals for the Federal Circuit, Year-to-Date Activity as of June 30, 2017 (listing 616 currently pending appeals from PTAB proceedings); *see also* Innovator Insights, Sharon Prost, Chief Judge, U.S. Court of Appeals for the Federal Circuit (Sept. 23, 2015), *available at* https://www.ipoef.org/?p=1513 (stating that the number of PTAB appeals has grown a great deal, and is expected to continue to grow).

for possible affirmance of that decision under a deferential review standard.[15]

An all-or-nothing approach thus hinders efficient use of judicial resources in general and the Board's limited resources in particular. It is also fundamentally unfair to require the patent owner to defend all challenged claims when the petitioner failed to meet its burden in the first instance.

III. Permitting Partial Institution Does Not Significantly Alter the Limited Estoppel Available to Patent Owners Under the AIA.

Some, including the petitioner in this case, have argued that partial institution allows petitioners a second chance to litigate the invalidity of certain claims because the PTAB failed to institute *inter partes* review on them, thereby avoiding estoppel under Section 315(e). *See* 35 U.S.C. § 315(e). While it is true that *inter partes* review estoppel can help limit a petitioner's invalidity challenges in district court litigation, it is not intended to, and in reality

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[15] To date, the court has affirmed the PTAB on every issue in almost 75% of the appeals, and without any written opinion on many occasions. *See* AIA Blog, Federal Circuit PTAB Appeal Statistics (Aug. 1, 2017), *available at*, http://www.aiablog.com/cafc-appeals/federal-circuit-ptab-appeal-statistics-august-1-2017.

simply does not, replace the invalidity portion of the district court litigation. *Inter partes* review is limited to invalidity challenges that could be raised under Section 102 or 103 and only on the basis of prior art consisting of patents or printed publications. 35 U.S.C. § 311(b). In contrast, a variety of other invalidity grounds are available to the petitioner in the district court litigation. *See Synopsys*, 814 F.3d at 1316 ("*Inter partes* review cannot replace the district court in all instances, for example, when claims are challenged in district court as invalid based on the on-sale bar, for claiming patent-ineligible subject matter, or on grounds of indefiniteness.").

Moreover, Section 315(e) is limited to "any *ground* that the petitioner raised or reasonably could have raised during that *inter partes* review." 35 U.S.C. § 315(e)(2) (emphasis added). It does not even wholly exclude a petitioner from relying on *other grounds* based on the same prior art patents or printed publications. For example, petitioner may freely use the same prior art publications in support of invalidity challenges under the on-sale bar or Section 102(g). *See, e.g., Depomed, Inc. v. Purdue Pharma L.P.*, No. CV-13-571, 2016 WL 8677317, at *8 (D.N.J. Nov. 4, 2016) (citing *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, 817 F.3d 1293, 1300 (Fed. Cir. 2016), *cert. denied*, 137 S. Ct. 374

(2016)) (finding that "the estoppel provisions of 35 U.S.C. § 315(e)(2) do not apply to [petitioner's] on-sale bar or [pre-AIA] § 102(g) defenses"). Thus, even if estoppel under Section 315 were to extend to all claims challenged and all grounds raised in the petition, it would be unimaginable that there would be no invalidity challenges in the district court litigation following the *inter partes* review. On the other hand, partial institution puts fewer claims at risk through the entire proceeding and potential appellate review. It allows the patent owner to focus its infringement case in the district court on claims that are no longer part of the PTAB proceeding.

As to concerns that partial institution may allow avoidance of estoppel under Section 315(e)(1), an expanded panel of the PTAB has set out procedures that seek to avoid such abuse of the inter partes review proceedings. *See Gen. Plastic Indus. Co., Ltd., Petr. v. Canon Kabushiki Kaisha*, No. IPR2016-01357, Paper 19, 2017 WL 3917706, at *7 (P.T.A.B. Sept. 6, 2016) (listing out factors that it considers in denying "follow-on" petitions that seek to avoid estoppel following a denial of institution).

On balance, the harm threatened to a patent owner under the Petitioner's approach is likely greater than any harm that the patent owner faces through the loss of a few estoppel arguments under

the Board's present interpretation of the statute. And while there may be perceived shortcomings in the implementation of the *inter partes* review proceeding, the relief requested by Petitioner is not the appropriate solution.

IV. The Board Should Not be Required to Address Every Claim in its Final Decision.

The alternate approach offered by the Petitioner is just as unappealing. Petitioner suggests that the Board forego "extensive, unreviewable, and non-estopping preliminary opinions" at the institution stage and instead provide a "simple thumbs-up 'notice' to the parties." *See* Br. at 37–38. Petitioner appears to propose that the portions of preliminary opinion relating to any claims on which *inter partes* review was not instituted be included in the final written decision along with portions relating to claims that the Board did conduct a review on. *Id.* at 38. This makes little sense. *See Synopsys*, 814 F.3d at 1315 ("[T]he statute would make very little sense if it required the Board to issue final decisions addressing patent claims for which *inter partes* review had not been initiated.").

Even if the Board were to merely include its prior non-institution decision in its final written decision, such a decision would be subject to review in its entirety by the Federal Circuit. 35 U.S.C. § 319. As

such, the parties would be forced to develop a record as to all claims, including those on which there is no reasonable likelihood of an invalidity finding by the Board. The Board's institution decision helps focus the parties on claims that the Board will in fact analyze and rule on. In spite of the short statutory period in which the Board is required to make a decision regarding institution, the Board has endeavored to provide parties with preliminary opinions that are helpful in focusing the parties on issues that matter. *See, e.g.*, Intellectual Property Owner's Ass'n Br. at 10 (listing PTAB decisions). For example, the Board regularly issues preliminary claim construction in its institution decisions, a determination that is key to resolving any invalidity challenge.[16] A proposal to dispense with the Board's preliminary opinion in favor of a single written decision at the end of the proceeding is bound to increase expense and thwart judicial economy. Petitioner's proposed alternative approach therefore presents more problems than it solves.

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[16] *Every Penny Counts, Inc. v. Am. Express Co.*, 563 F.3d 1378, 1381 (Fed. Cir. 2009) ("The purpose of claim construction is to determine the meaning and scope of the patent claims"); *Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1375 (Fed. Cir. 2017) (holding that when the parties raise an actual dispute regarding the proper scope of claims the Board "must resolve such disputes in the context of IPRs").

CONCLUSION

HIPLA respectfully asks this Court to rule that 35 U.S.C. § 318(a) does not require the PTAB to conduct review of or issue a final written decision as to every claim that a petitioner challenges in the *inter partes* review petition.

Respectfully submitted.

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SEPTEMBER 12, 2017

RECORD
AND
BRIEFS

No. 16-969

In the
Supreme Court of the United States

SAS INSTITUTE INC.,

Petitioner,

v.

JOSEPH MATAL, Interim Director, U.S. Patent and Trademark Office, et al.

Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF AMICUS CURIAE INTELLECTUAL PROPERTY OWNERS ASSOCIATION IN SUPPORT OF PETITIONER

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INTEREST OF *AMICUS CURIAE*

Amicus curiae Intellectual Property Owners Association (IPO) is an international trade association representing companies and individuals in all industries and fields of technology that own or are interested in intellectual property rights.[1] IPO's membership includes roughly 200 companies and more than 12,000 individuals who are involved in the association either through their companies or as an inventor, author, executive, law firm, or attorney member. Founded in 1972, IPO represents the interests of its members before Congress and the USPTO and has filed *amicus curiae* briefs in this Court and other courts on significant issues of intellectual property law. The members of IPO's Board of Directors, which approved the filing of this brief, are listed in the Appendix.[2]

SUMMARY OF THE ARGUMENT

In 2011, Congress enacted the America Invents Act (AIA) reforming patent review proceedings at the Patent and Trademark Office. The AIA created, among other things, *inter partes* review before the Patent Trial and Appeal Board (PTAB), which began in 2012. Congress intended *inter partes* review proceedings to be a true alternative to district court litigation for the determination of patent validity.

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[1] No counsel for a party authored this brief in whole or in part, and no such counsel of a party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than the *amicus curiae* or its counsel made a monetary contribution to its preparation or submission. The parties have consented to the filing of this brief.

[2] IPO procedures require approval of positions in briefs buy a two-thirds majority of directors present and voting.

However, the PTAB's current practice of failing to address all challenged claims in the final written decision has frustrated this purpose.

The plain language of the AIA requires the PTAB to issue a final written decision that addresses every claim challenged in the petition. The PTAB's current practice does not conform to this requirement. Instead, when the PTAB institutes on only some of the challenged claims, its final written decision does not address the non-instituted claims, leaving them to be re-litigated. The Court of Appeals for the Federal Circuit has affirmed this practice in *SAS Institute Inc. v. Matal*, 825 F.3d 1341 (Fed. Cir. 2016) and *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309 (Fed. Cir. 2016). The Federal Circuit's decision undermines the legislative intent in enacting the *inter partes* review provisions of the AIA and, in particular, the estoppel provision intended to eliminate abusive litigation tactics. Instead, the PTAB should be required to conform to the statutory language and legislative intent of the AIA and address all challenged claims in a final written decision.

ARGUMENT

I. Section 318(a) Requires the Patent Trial and Appeal Board in an *Inter Partes* Review To Issue a Final Written Decision as to Every Challenged Claim

The plain language of the American Invents Act requires the PTAB to address in the final written decision all claims challenged by a petitioner.

Section 318(a) provides that, "[i]f an *inter partes* review is instituted and not dismissed," the PTAB "***shall*** issue a final written decision with respect to

the patentability of ***any*** patent claim challenged by the petitioner." 35 U.S.C. § 318(a) (emphasis added). Even where the PTAB institutes *inter partes* review on fewer than all of the claims included in a petition, those claims remain "challenged" by the petitioner. Given the clear and unambiguous statutory language, the PTAB's practice of failing to address challenged, but non-instituted claims in the final written decision, is *ultra vires*.

Although the Patent Office interprets section 318(a) differently, its interpretation is not entitled to deference because section 318(a) directly addresses the issue and plainly requires the final written decision to address all claims challenged by the petitioner. *See Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 842 (1984) ("If the intent of Congress is clear, that is the end of the matter[.]"); *see also Util. Air Regulation Grp. v. Envtl. Prot. Agency*, 134 S. Ct. 2427, 2446 (2014) ("[A]n agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate.").

II. The Federal Circuit's Interpretation of Section 318(a) Does Not Have the Desired Effect That the Statute Envisioned

A. Congress Intended *Inter Partes* Review Proceedings To Be Effective Alternatives to Costly District Court Litigation

Congress intended for *inter partes* review proceedings to be faster, less costly alternatives for certain invalidity challenges—namely, invalidity under sections 102 or 103 based on patents and printed publications. *See, e.g., Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1330 (Fed.

Cir. 2016) (J. Newman dissenting) ("The design of the AIA is that the major documentary validity challenges, sections 102 and 103, will be subject to decision by the PTO expert tribunal."). *Inter partes* review was envisioned to "completely substitute for at least the patents-and-printed-publications portion of" infringement litigation. *See, e.g.*, 157 Cong. Rec. S1376 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl); S. Rep. No. 110-259, at 56 (Additional Views of Senator Specter Joined with Minority Views of Senators Kyl, Grassley, Coburn, and Brownback) (2008) ("[I]f second window proceedings [e.g., *inter partes* review] are to be permitted, they should generally serve as a complete substitution for at least some phase of the litigation."). Indeed, PTAB determinations were intended to be as final and definite as district court litigation.

Moreover, creating a complete substitute for district court litigation was intended to benefit both the petitioner and the patent owner. One of the main purposes of the AIA was to "provid[e] quick and cost effective alternatives to litigation" saving both parties time and expense to reach a conclusion of patent validity. H.R. Rep. No. 112-98, pt. 1, at 58 (2011). These quicker proceedings would replace prolonged litigation where the cost of defense itself would quickly exceed initial settlement value. Instead, "the Patent Office will make an administrative determination before the years of litigation as to whether this patent is a legitimate patent so as not to allow the kind of abuse we have seen," allowing defendants to evaluate the true efficacy of litigation before proceeding. 157 Cong. Rec. S5437 (statement of Sen. Schumer during Senate consideration of H.R. 1249).

On the other hand, the PTAB's determination was intended to protect the patent owner from defending the validity of its patent in multiple actions before multiple tribunals. A central purpose of the AIA is "to force a party to bring all of [its] claims in one forum . . . and therefore to eliminate the need to press any claims in other fora." 154 Cong. Rec. S9989 (daily ed. Sept. 27, 2008) (statement of Sen. Kyl). "Lengthy and duplicative proceedings" were considered to be "one of the worst evils of other systems of administrative review of patents." *Id.* *Inter partes* review was intended to eliminate these drawbacks of former review proceedings in favor of a dispositive and certain outcome. *See Synopsys*, 814 F.3d at 1327 (Newman, J., dissenting) (noting the legislative intent that "serial and duplicative attacks . . . not result from the new [PTAB] procedures").

The AIA's estoppel provisions, 35 U.S.C. § 315(e)(2), play an important role in preventing serial attacks on patent validity. By providing estoppel consequences, Congress intended "to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge," with the result of "significantly reduc[ing] the ability to use post-grant procedures for abusive serial challenges to patents." 157 Cong. Rec. S952 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley). Unfortunately, the PTAB's current practice of failing to address all claims challenged in a petition for *inter partes* review not only frustrates the goal of preventing serial challenges to patent invalidity, but encourage that outcome.

B. The Statute's Estoppel Provisions Are Not Properly Applied When the PTAB Issues a Decision on Fewer Than All of the Challenged Claims

Under 35 U.S.C. § 315(e)(2), estoppel is applied on a claim-by-claim basis:

> The petitioner in an inter partes review of ***a claim in a patent*** under this chapter that results in a final written decision under section 318 (a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that ***the claim*** is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review.

(emphasis added). For this reason, when the PTAB does not institute *inter partes* review on certain claims and the final written decision does not address them, courts have not applied the estoppel provision of section 315(e) to those claims. *See Princeton Dig. Image Corp. v. Konami Dig. Entm't Inc.*, No. 12-1461-LPS-CJB, 2017 WL 1196642, at *2 (D. Del. Mar. 30, 2017) ("[F]or estoppel to apply, under § 315(e)(2), the claim which a petitioner asserts is invalid in a civil action or ITC proceeding ('the claim') must be the same claim for which an IPR resulted in a final written decision ('a claim')."); *Depomed, Inc. v. Purdue Pharma L.P.*, No. 13-571 (MLC), 2016 WL 8677317, at *8 (D.N.J. Nov. 4, 2016) ("[I]f a claim of a patent is not instituted in an IPR,

and there is no final written decision as to that claim, the estoppel provisions of 35 U.S.C. § 315(e) do not apply.").

Removing any doubt as to how other district courts have correctly addressed the issue, the Federal Circuit itself recently noted: "***There is no IPR estoppel with respect to a claim as to which no final written decision results.***" *Credit Acceptance Corp. v. Westlake Servs.*, No. 2016-2001, 2017 WL 2485469, at *6 (Fed. Cir. Jun. 9, 2017) (emphasis added); *see also HP Inc. v. MPHJ Tech. Invs., LLC*, 817 F.3d 1339, 1347 (Fed. Cir. 2016) (noting that estoppel would not apply to grounds not instituted as redundant because "noninstituted grounds do not become part of the IPR"); *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, 817 F.3d 1293, 1300 (Fed. Cir. 2016) (stating estoppel would not apply to an invalidity ground that was not instituted).

As a result of this practice, the validity of claims challenged in a petition but not included in the PTAB's final written decision remains subject to dispute—including challenges based on the same grounds already presented to and rejected by the PTAB at institution. As the Federal Circuit explained, "[t]he validity of claims for which the Board did not institute inter partes review can still be litigated in district court." *See Synopsys*, 814 F.3d at 1316 (rejecting patent owner's argument that "issuing final decisions only addressing some of the claims in the petition is inconsistent with the estoppel provisions of the AIA because final decisions that do not address all of the claims will have limited estoppel effect" (internal quotations omitted)). Essentially, petitioners get a second chance to

litigate the invalidity of certain claims because the PTAB failed to institute *inter partes* review on them. *See, e.g.*, *Princeton Dig. Image*, 2017 WL 1196642, at *2 (finding no estoppel and allowing invalidity challenge on claims not addressed in final written decision, including claims for which "no review . . . was ever instituted"); *Depomed*, 2016 WL 8677317, at *8.

In such circumstances, the patent owner experiences duplicative proceedings—proceedings before the PTAB (e.g., where the patent owner submits a preliminary response to the petition) and then again before a district court (or the International Trade Commission) on the non-instituted claims, potentially on the same or similar prior art addressed by the PTAB in its institution decision. Such a result increases the overall cost of the dispute and delays the ultimate resolution of the patent owner's claim. *See Synopsys*, 814 F.3d at 1332 (Newman, J., dissenting) (If the undecided claims are left for district court resolution, "the AIA purpose of replacing the cost and delay of district court validity proceedings instead dissolves into potentially duplicative proceedings in the PTO and the district court, enlarging rather than reducing cost and delay.").

For example, district courts often stay litigation pending the outcome of an *inter partes* review. *See* LegalMetric Nationwide Report, "Stay Pending Inter Partes Review in Patent Cases" (Aug. 2012-Mar. 2017) at 2 (noting win rate for contested motions to stay is 59.1%, in 680 decisions); Matthew R. Frontz, *Staying Litig. Pending Inter Partes Review and the Effects on Patent Litig.*, 24 Fed. Cir. B.J. 469, 485-86 (2015). Such a stay can impose a year or more of

delay.[3] When the PTAB does not institute on some claims, those claims necessarily survive the *inter partes* review proceeding. Thus, when the district court case resumes, the patent owner has suffered delay, yet has received no benefit from the stay because the petitioner remains free to challenge the validity of the claims that the final written decision does not address.

Under the decision below these proceedings become duplicative and are especially unfair and wasteful because the petitioner chose to take advantage of the *inter partes* review option and failed to convince the PTAB even to institute *inter partes* review, where the test is much lower than the test the petitioner would have to meet in district court or before the International Trade Commission. Specifically, before the PTAB, a petitioner must demonstrate a "reasonable likelihood" of prevailing on its assertion that at least one claim is unpatentable. 35 U.S.C. § 314(a). In contrast, in district court and before the International Trade Commission, the patent benefits from a presumption of validity and the party challenging validity must prove invalidity by clear and convincing evidence. 35

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[3] The PTAB will generally decide whether to institute *inter partes* review within six months after the petitioner files its petition. *See* Office Patent Trial Practice Guide, 77 Fed. Reg. 48756, 48757 (Aug. 14, 2012). Once instituted, the PTAB should issue a final written decision within twelve months, which can be extended by six months for good cause. 35 U.S.C. § 316(a)(11). Although the duration of the stay will depend on when a litigant files and the district court acts on a motion to stay, and whether the stay remains in effect pending appeal of a final written decision, if the patent owner is successful in the *inter partes* review, the stay can last up to approximately eighteen months.

U.S.C. § 282(a) ("A patent shall be presumed valid . . . . The burden is establishing invalidity of a patent or any claim thereof shall rest on the part asserting invalidity."); *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359-60 (Fed. Cir. 1984); *see also Checkpoint Sys., Inc. v. Int'l Trade Comm'n*, 54 F.3d 756, 761 (Fed. Cir. 1995).

When the PTAB does not institute *inter partes* review for certain claims, it is usually because the petitioner has failed to show a reasonable likelihood that it would prevail in establishing that the claims are unpatentable. In making this determination, the PTAB typically explains the deficiencies in the petitioner's proof. *See, e.g., Unified Patents, Inc. v. Ruby Sands LLC*, IPR2016-00723, Paper 7, 2016 WL 5404386 (P.T.A.B Aug. 29, 2016) (describing reasons for not instituting for certain claims); *Amerigen Pharms. Ltd. v. Shire LLC*, IPR2015-02009, Paper 8 at 22-25, 29-34, 36-37 (P.T.A.B. Apr. 18, 2016); *Ericsson Inc. v. Intellectual Ventures I LLC*, IPR2014-01149, Paper 8 at 7-8, 2015 WL 5578351, at *7-9 (P.T.A.B. Jan. 28, 2015); *TWR Auto. US LLC v. Magna Elecs. Inc.*, IPR2014-00256, Paper 16, 2014 WL 2965893, at *15-19, 21-22 (P.T.A.B. June 26, 2014) (describing reasons for not instituting for certain claims).

Allowing the petitioner to have, in effect, a "do-over" in the district court or before the International Trade Commission with respect to such claims is manifestly unfair, especially after the petitioner failed to meet the lower standard for instituting *inter partes* review. As discussed above, Congress did not intend this result, but rather expected the estoppel to apply in a way that prevents duplicative proceedings and delay. *See* S. Rep. No. 110-259, at

67 (Additional Views of Senator Specter Joined with Minority Views of Senators Kyl, Grassley, Coburn, and Brownback) (2008) ("[I]f estoppel rules are unduly liberalized, second-window proceedings [e.g., *inter partes* review] could easily be used as a delaying tactic."); 157 Cong. Rec. S952 (daily ed. Feb. 28, 2011) (statement of Sen. Grassley) (The bill includes "a strengthened estoppel standard to prevent petitioners from raising in a subsequent challenge the same patent issues that were raised or reasonably could have been raised in a prior challenge. The bill would significantly reduce the ability to use post-grant procedures for abusive serial challenges to patents. These new procedures would also provide faster, less costly, alternatives to civil litigation" to challenge patents.); *see also supra* Section II.A.

C. To Effect the Purpose and Design of the AIA, the PTAB Should Address All Challenged Claims in the Final Written Decision

Congress intended *inter partes* review proceedings to be a true alternative for district court litigation for certain invalidity challenges. The current practice of not addressing all challenged claims not only frustrates this intent but allows duplicative challenges. This practice permits a challenger two bites at the apple, drives up cost for both parties, and encourages abusive litigation tactics. Instead, the PTAB should address all the challenged claims in the final written decision, thus triggering the estoppel provision for each challenged claim. This result is faithful to the statutory language and preserves the legislative intent and the

accompanying benefits of the *inter partes* review scheme.

Moreover, requiring the PTAB to comply with the statute would not be burdensome. Already when the PTAB does not institute certain claims for *inter partes* review, the PTAB explains the deficiencies in the petitioner's proof. *See, e.g.*, *Unified Patents*, 2016 WL 5404386; *Amerigen Pharms.*, IPR2015-02009, Paper 8 at 22-25, 29-34, 36-37; *Ericsson*, 2015 WL 5578351, at *7-9; *TWR Auto.*, 2014 WL 2965893, at *15-19, 21-22. The PTAB should incorporate that analysis into its final written decision. This approach would effectuate the purpose of *inter partes* review and eliminate abusive practices of pursuing duplicative challenges of invalidity.

CONCLUSION

For these reasons, the Court should hold that 35 U.S.C. § 318(a) requires the PTAB to issue a final written decision as to every claim that a petitioner challenges in its petition for which an *inter partes* review is instituted.

Respectfully submitted.

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1. IPO procedures require approval of positions in briefs by a two-thirds majority of directors present and voting.

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